



CONTRA COSTA TRANSPORTATION AUTHORITY

The 2000 Update



Final Plan – Adopted July 19, 2000

CONTRA COSTA COUNTYWIDE COMPREHENSIVE TRANSPORTATION PLAN



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Contra Costa Transportation Authority

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The 2000 Update

to the Contra Costa Countywide Comprehensive Transportation Plan

FINAL PLAN — ADOPTED JULY 19, 2000

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Additional Information

Copies of the full version of the 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan are also available. If you would like copies, please contact Martin Engelmann, Deputy Director for Planning, by phone at 925.256.4729 or by email at mre@ccta.net, or Brad Beck, Senior Transportation Planner, by phone at 925.256.4726 or by email at bbeck@ccta.net. You can also download copies of the Plan from our website at www.ccta.net. Our website contains additional information on the 2000 Update and other Authority activities.

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Contra Costa Transportation Authority

July 19, 2000

RE: Executive Summary to the 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan

Dear Reader:

We are pleased to release the Final 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan. This document, which represents the first major update to the 1995 Plan, refines the Authority's vision, goals and strategies for managing the impacts of growth and improving mobility on our streets, highways, transit and bicycle and pedestrian facilities.

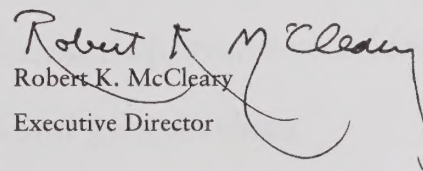
The 2000 Update represents the culmination of a two-year effort to craft a plan that addresses the transportation challenges we will face over the next 20 years. Its success would not have been possible without the cooperation and support

of elected officials and staff from local jurisdictions, transportation agencies and the input and comments of other interested parties.

Our website at www.ccta.net contains additional information on the 2000 Plan update and other Authority activities, including downloadable copies of the Plan.

We appreciate your interest in the 2000 Plan update.

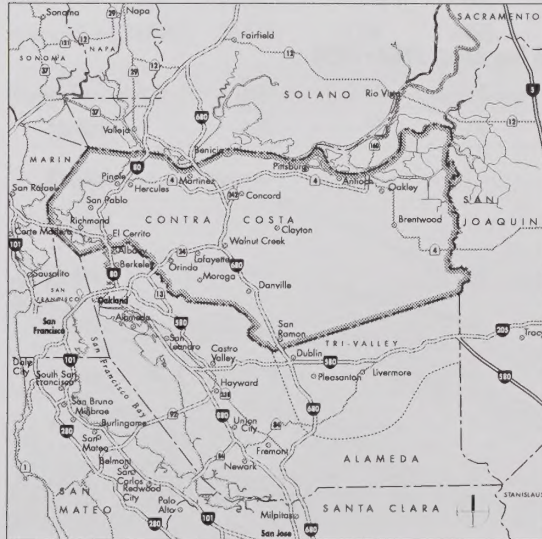
Sincerely,


Robert K. McCleary
Executive Director



Executive Summary

Figure I Regional Setting



The economy is booming, employment and residential areas are expanding, and demographic forces all point toward continued dramatic growth for Contra Costa through 2020. How will we keep pace with the increased demands that a growing population will place on the public facilities that serve our region? How will we manage the unyielding growth in traffic, without pulling the plug on our vibrant economy? To address these challenges, the 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan outlines a unique, multi-faceted vision for the future. Reaffirming the principles of Measure C and its Growth Management Program, this plan carries forward Measure C's cooperative, multi-jurisdictional approach to addressing growth issues, while forging new regional partnerships.

How Much Growth Are We Talking About?

The Bay Area has grown a lot since World War II, increasing by 2.4 million new residents — almost a doubling — since 1950. Contra Costa, however, has grown even faster, tripling in population between 1950 and 2000. Contra Costa now has an estimated population of about 928,000 people with about 339,000 jobs located here as well.

We expect this growth to continue, although not perhaps at as fast a pace. The two charts below compare the forecast growth in households and jobs in Contra Costa and the Tri-Valley with growth in

the Bay Area. They show that the Contra Costa-Tri-Valley area will add close to 300,000 people and about 114,000 new households over the next 20 years, and will grow at a much faster rate than the region as a whole. This represents a 29 percent increase over that 20-year period, or approximately 15,000 new residents a year.

Job growth in Contra Costa will also be substantial with 202,000 new jobs forecast between 2000 and 2020, a 46 percent increase. This rate of growth will be roughly the same as the region as a whole.

Some subareas will add households faster than others. The largest increases are projected for East County and the Tri-Valley (which includes parts of

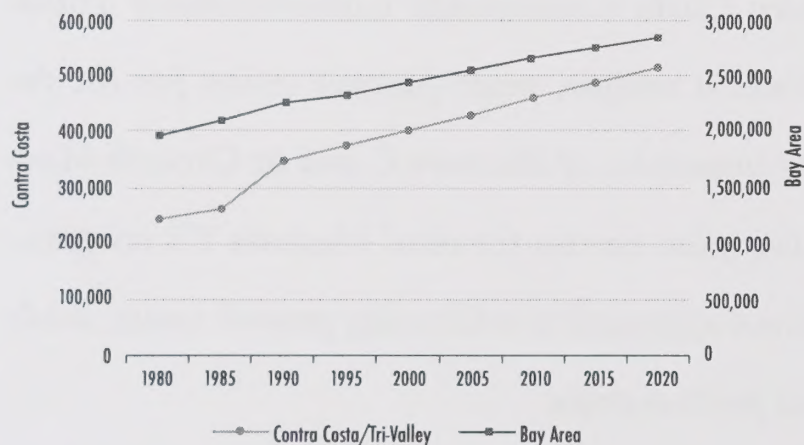
both Contra Costa and Alameda counties). While other areas are forecast to grow only four to five percent, the Tri-Valley is forecast to grow by 44 percent and East County by 56 percent. Similarly, while West, Central and East County are each forecast to add between 17,000 and 22,000 new jobs, the Tri-Valley is projected to gain almost 100,000 new jobs, a 61 percent increase.

What Will This Growth Do to Traffic?

More people and more jobs mean more traffic. And more traffic will mean more congestion. Our models suggest that people in Contra Costa and the Tri-

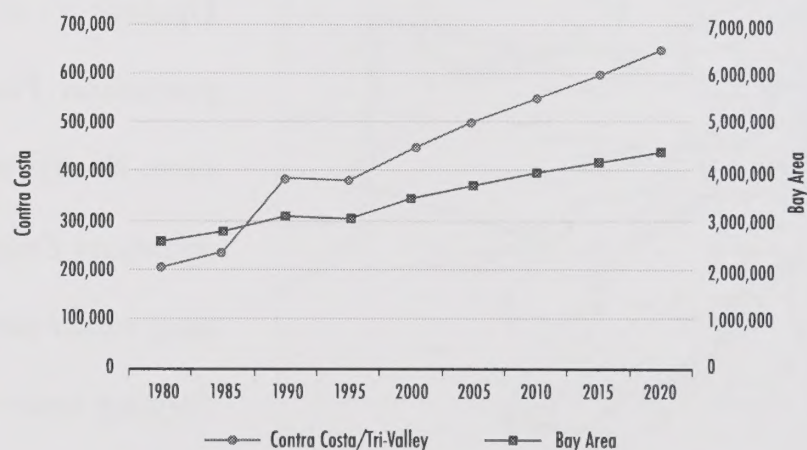
Forecast Growth in Households

Contra Costa + Tri-Valley and Bay Area, 1980–2020



Forecast Growth in Jobs

Contra Costa + Tri-Valley and Bay Area, 1980–2020



Valley will drive about 40 percent more miles during the evening peak hour in 2020 than they do today, and that about 20 percent more of those miles traveled will be at congested levels.

The time spent traveling during the evening commute, however, will grow faster than the distance traveled, increasing 90 percent over the next

20 years. And the amount of time spent in congestion will grow even faster than that. Our models show a 140 percent increase in the amount of time drivers spend in congestion between 2000 and 2020.

When the time spent driving increases faster than the distance traveled, speeds naturally drop.

We expect that speeds in Contra Costa will drop, on average, two miles an hour — a seven percent decrease — during the evening commute. The biggest drops in speed are projected to occur on the freeways; we are forecasting a nine percent drop from 47 to 42 miles per hour.

Forecast Travel During Evening Peak Hour

2000 and 2020

Vehicle Miles Traveled	2000	2020	Percent Change
Total	1,700,000	2,371,000	39%
In congestion (LOS E & F)	787,000	937,000	19%
Vehicle Hours Traveled	2000	2020	Percent Change
Total	50,300	96,300	91%
In congestion (LOS E & F)	23,800	57,200	140%
Average Speed (mph)	2000	2020	Percent Change
	33	31	-7%



What is the Contra Costa Transportation Authority?

The Contra Costa Transportation Authority administers the transportation improvement and growth management program established in Measure C, approved by the voters in 1988. This measure established a half-cent sales tax to fund specific transportation improvements and programs and to support growth management and transportation planning within Contra Costa.

The Authority has helped fund many of the specific transportation improvements named in Measure C including the extension of BART to Pittsburg, the Richmond Parkway, and the widening of State Route 4 over Willow Pass. Several other Measure C projects are currently planned or under construction including the widening of State Route 4 from Bailey to Railroad, the closing of the “gap” in State Route 4 West between I-80 and Cummings Skyway, and the widening of State Route 242. The Authority also provides ongoing funding for transit operations, transportation demand management and transportation planning.

The Authority has also established a Growth Management Program to carry out the requirements of Measure C. This program distributes local street maintenance funds to jurisdictions that adopt growth management, development mitigation and transportation demand management programs, and plan together with other jurisdictions in Contra Costa and the Tri-Valley. The program also supports other transportation planning and growth management efforts including the modeling of future travel conditions.

The Authority also serves as the Congestion Management Agency for Contra Costa. As the CMA, the Authority prepares a Congestion Management Program and updates it biennially, prepares a recommended list of projects for funding through the State Transportation Improvement Program, and works with others CMAs and regional and State agencies to address transportation and growth management issues in the region and State.

The Vision for Contra Costa in 2020

Our crystal ball can identify the difficulties that growth and change will bring. It is up to us, however, to identify a new vision for the future and to complete the work necessary to achieve it. For the Authority, that Vision is:

Strive to preserve and enhance the quality of life and promote a healthy, strong economy to benefit the people and areas of Contra Costa, sustained by 1) a balanced, safe and efficient transportation network; 2) cooperative planning; and 3) growth management. The transportation network should integrate highways, local streets and roads, public transit, and pedestrian and bicycle facilities to meet the diverse needs of Contra Costa.

Achieving the Vision will require the Authority to *find the right balance* among the different, and sometimes competing, needs of Contra Costa's residents and businesses, including:

- Completing and expanding the regional system of roads, transit and pathways while ensuring that the existing system is well maintained.
- Balancing the needs of through traffic with the access needs and quality of life of adjoining neighborhoods and business areas.
- Recognizing the differing needs and situations

of Contra Costa's subareas while developing a comprehensive approach to transportation systems.

- Recognizing that new capacity will not in the long run eliminate congestion, adding capacity for automobiles where beneficial while supporting and encouraging the use of transit, carpools, bicycles and walking.

All of these needs are important, and the goals and actions contained in the 2000 Update are designed to meet them all. Finding the right balance among these needs, however, will require perseverance, cooperation among the jurisdictions of Contra Costa and the support of residents and the business community.

Principles and Assumptions

The following principles and assumptions provide the framework for the goals for the 2000 Update and the strategies for achieving them:

1. Because the Bay Area will continue to add more jobs and households, well-considered steps must be taken to accommodate and influence the amount, location and timing of Contra Costa's share of that growth.
2. Projects and programs must be affordable and realistic, provide travel options, and be cost-effective in improving mobility and safety to achieve the greatest combined benefit for the traveling public.
3. Decisions regarding how to direct transportation investments, manage the impacts of growth, and determine appropriate mitigation measures for new development should be made:
 - a. Through a cooperative transportation planning process in the context of a countywide growth management program;
 - b. Taking into account the priorities of local residents and businesses;
 - c. Recognizing that local governments are responsible for land-use decisions; and
 - d. In cooperation with agencies both within and outside of Contra Costa.
4. Achieving this vision will involve an ongoing effort to balance the sometimes competing objectives of sustaining a strong, viable economy with preservation and enhancement of the environment.
5. Public input is a critical element for the success of the transportation and growth management program.

Table 1 Goals and Strategies**1. Alleviate congestion on highways and arterial roads**

- 1.1 Increase the operational capacity of the existing highway and arterial roads systems through capital and operating enhancements
- 1.2 Define and close gaps in the existing highway and arterial system
- 1.3 Consistent with a countywide plan to influence the location and nature of anticipated growth, expand the highway and arterial systems

2. Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment

- 2.1 Require cooperative transportation and land use planning among Contra Costa County, cities, towns, and transportation agencies
- 2.2 Work to maintain and expand partnerships to achieve the Authority's goals
- 2.3 Participate in a regional cooperative land use planning process with agencies both within and outside of Contra Costa
- 2.4 Support land use patterns within Contra Costa that make more efficient use of the transportation system, consistent with the General Plans of local jurisdictions
- 2.5 Require local jurisdictions to (i) establish standards for necessary public capital improvements, (ii)

have new growth pay its fair share of the cost of such improvements, and (iii) link land use decisions to the level of local arterial system capacity that can reasonably be provided

- 2.6 Link transportation investments to (i) support of an urban limit line jointly endorsed by the County, cities and towns, once it is established, (ii) new developments which enhance transportation efficiency and economic vitality, and (iii) infill and redevelopment in existing urban and brownfields areas

- 2.7 Respect community character and the environment when considering proposed new transportation capital projects

3. Expand safe, convenient and affordable alternatives to the single-occupant automobile

- 3.1 Help fund the expansion of existing transit services, and maintenance of existing operations, including BART, bus transit, school buses, and paratransit
- 3.2 Link transit investments to increased coordination and integration of public transit services, or improved connections between travel modes
- 3.3 Require local jurisdictions to incorporate policies and standards that support transit, bicycle and

pedestrian access in new developments

- 3.4 Support transit-oriented and pedestrian-friendly developments
- 3.5 Invest in trails, walkways, and pedestrian-oriented improvements
- 3.6 Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking
- 3.7 Support the expansion of a coordinated system of transit and paratransit service to address the mobility needs of low-income, elderly, young and disabled travelers

4. Maintain the transportation system

- 4.1 Advocate for stable sources of funds for transit operations
- 4.2 Require programs for effective preventive maintenance and rehabilitation of the transportation system
- 4.2 Provide funding to reduce the backlog of rehabilitation and maintenance needs
- 4.4 Once the backlog has been addressed, promote stable funding and preventative maintenance programs that will maintain the long-term health of the system

Improving the Transportation System

The Authority and its partners will apply these strategies to improve how well the transportation system works. These strategies will apply to not only the physical components of the system — the streets and roads, the buses and rail transit, the bicycle and pedestrian facilities and the freight movement corridors — but also to how we manage and maintain it.

STREETS AND HIGHWAYS

Our streets, roads and highways are the dominant component in the transportation system, providing the primary paths for movement, whether by car, bus, bicycle or foot. The majority of trips people make each day use this roadway system. As the region grows, the demands on the roadway system will also grow.

Our ability to expand the roadway system, however, is limited. Funding for transportation improvements has not kept pace with increased demands and the costs of expanding the roadway system have increased, further eroding what available funding can buy. In addition, expanding the roadway system faces increased opposition from adjoining communities concerned about noise, air quality and safety and from environmentalists concerned with sprawl and loss of open space.

While many of the improvements will be “on the margin” — that is, they will represent only rela-

tively minor increases to the total capacity of the system — significant improvements can still be made and bottlenecks eliminated. These improvements will be enhanced through improvements to how our streets and highways operate. By improving traffic flow, we can sometimes increase the effective capacity of roadways without expensive (and often controversial) projects.

TRANSIT

Transit — including buses, BART, interregional rail, paratransit and ferries — plays an important role in the transportation system. It can provide efficient service in congested corridors, take advantage of separate rights-of-way and HOV lanes and serve the needs of those that cannot or do not drive.

Transit can attract new riders if it is faster, cheaper, more convenient or more pleasant than driving. The strategies outlined in the 2000 Update are designed to help encourage greater transit use over the next 20 years and increase the share of trips made by bus, rail or ferry.

These strategies include helping fund expanded transit service, supporting greater coordination among transit operators, encouraging development standards that better support transit service, and otherwise promoting transit use. The Authority will balance its support for transit between service during the peak-hour for commuters and service throughout the day for those that cannot or choose not to drive. One key approach to serving commuters is through expanded express bus services that take advantage of the travel time benefits that

existing and planned HOV lanes can provide. These HOV lanes and key transit trunklines are shown on Figure 11.

HIGH-OCCUPANCY VEHICLES

Carpools and vanpools will play an important role in achieving the vision of the 2000 Update. These so-called high-occupancy vehicles, or HOVs, can decrease the number of cars on the road by increasing the average number of people each vehicle carries. As with transit, carpooling can be more attractive when it is faster, cheaper, more convenient or more reliable than driving alone. There are several possible ways of doing this:

- Expanding the system of HOV lanes
- Eliminating tolls or providing preferential parking for HOVs (or increasing parking costs for single-occupant vehicles)
- Providing a mix of services near work, or expanding “guaranteed-ride home” programs
- Expanding park-and-ride lots and requiring carpool parking in the most convenient places

The Authority supports such strategies in various ways. The Measure C Growth Management Program requires local jurisdictions to adopt a TDM ordinance. The Authority also funds transportation demand management programs in Contra Costa, especially the Contra Costa Commute Alternative Network.

Figure 11 shows existing, programmed and

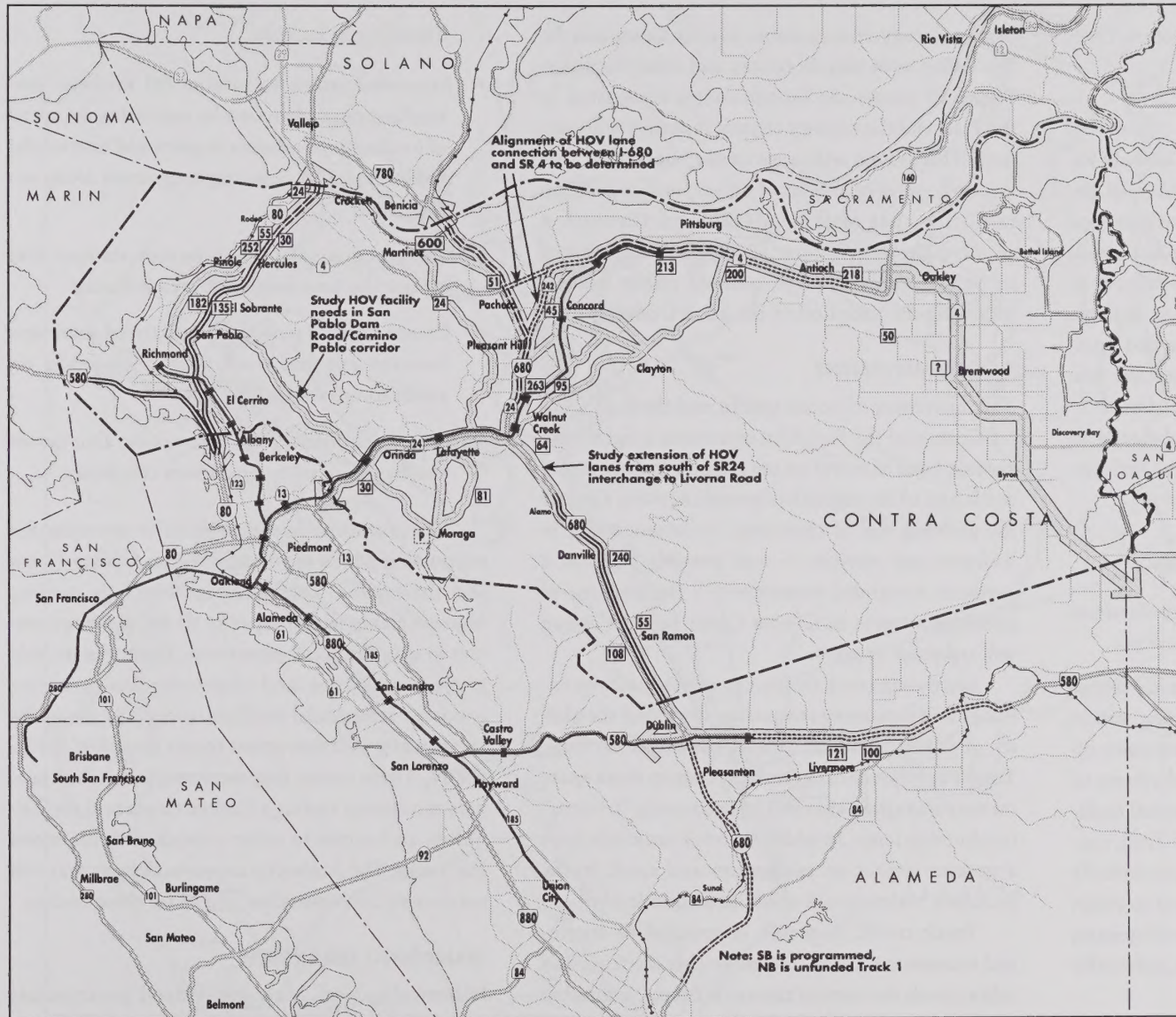


Figure II Transit Trunklines, High-Occupancy Vehicle Lanes and Park-and-Ride Lots

- Existing HOV lanes
- === Programmed HOV lanes
- Planned HOV lanes
- 55 Existing Park-and-Ride Lot (number of parking spaces)
- P Proposed Park-and-Ride Lot
- Transit Trunkline
- BART
- Capitol Corridor/Amtrak
- Altamont Commuter Express

planned HOV lanes and park-and-ride lots in Contra Costa and the Tri-Valley.

BICYCLES AND PEDESTRIANS

While many, if not most, people bicycle or walk for recreation, bicycling and walking can play an important role in transportation, especially where trips are short and safe and attractive paths are available. Although only a small share of the number of trips made each day, bicycling and walking can provide several benefits to neighborhoods and environmental quality, and can play a significant role in supporting other alternative travel modes.

There are, however, a number of obstacles to greater use of bicycles and walking. They include:

- Widely-dispersed land uses
- Safety and conflicts with automobiles
- The lack of a well-connected and maintained system of bicycle and pedestrian facilities

The Authority has identified the following strategies for encouraging walking and bicycling within Contra Costa and the region. These strategies include the closure of gaps in the regional system of bicycle routes that build on existing regional facilities such as the Iron Horse Trail and Bay Trail; support for transit-oriented and pedestrian-friendly development; requiring local jurisdictions to adopt standards that would support such development; and investing in new trails, bicycle lanes, sidewalks and other pedestrian facilities.

One key strategy is to connect and provide ac-

cess to activity centers within Contra Costa and the Tri-Valley with bicycle routes and other facilities. Figure III shows the bicycle routes designated in the Plan and the activity centers that they will connect. This system will serve as the “backbone” for a more extensive system of bicycle and pedestrian facilities that will be developed through a countywide bicycle plan. This plan is anticipated to be developed through a broad public process following the adoption of the 2000 Update.

GOODS MOVEMENT

The movement of goods within and through Contra Costa and the Bay Area represents a significant portion both of travel on the region’s highways and roads and of the region’s economic activity. Despite the growing use of electronic communications in business and services — and possibly because it supports expanded commerce — the amount of goods movement in Contra Costa and the region will continue to grow.

Increasing truck traffic can affect roadway capacity and increasing congestion can affect the ability of trucks to reach their destinations on time. Trucks can reduce capacity by taking up more space on roadways than cars and by increasing “friction” in adjoining lanes. In addition, truck accidents have a greater impact on congestion and truck traffic increases maintenance needs and noise levels.

Truck traffic, however, is essential to continued economic activity. To ensure that trucking and other goods movement remain efficient, a number of needs should be addressed.

These needs include:

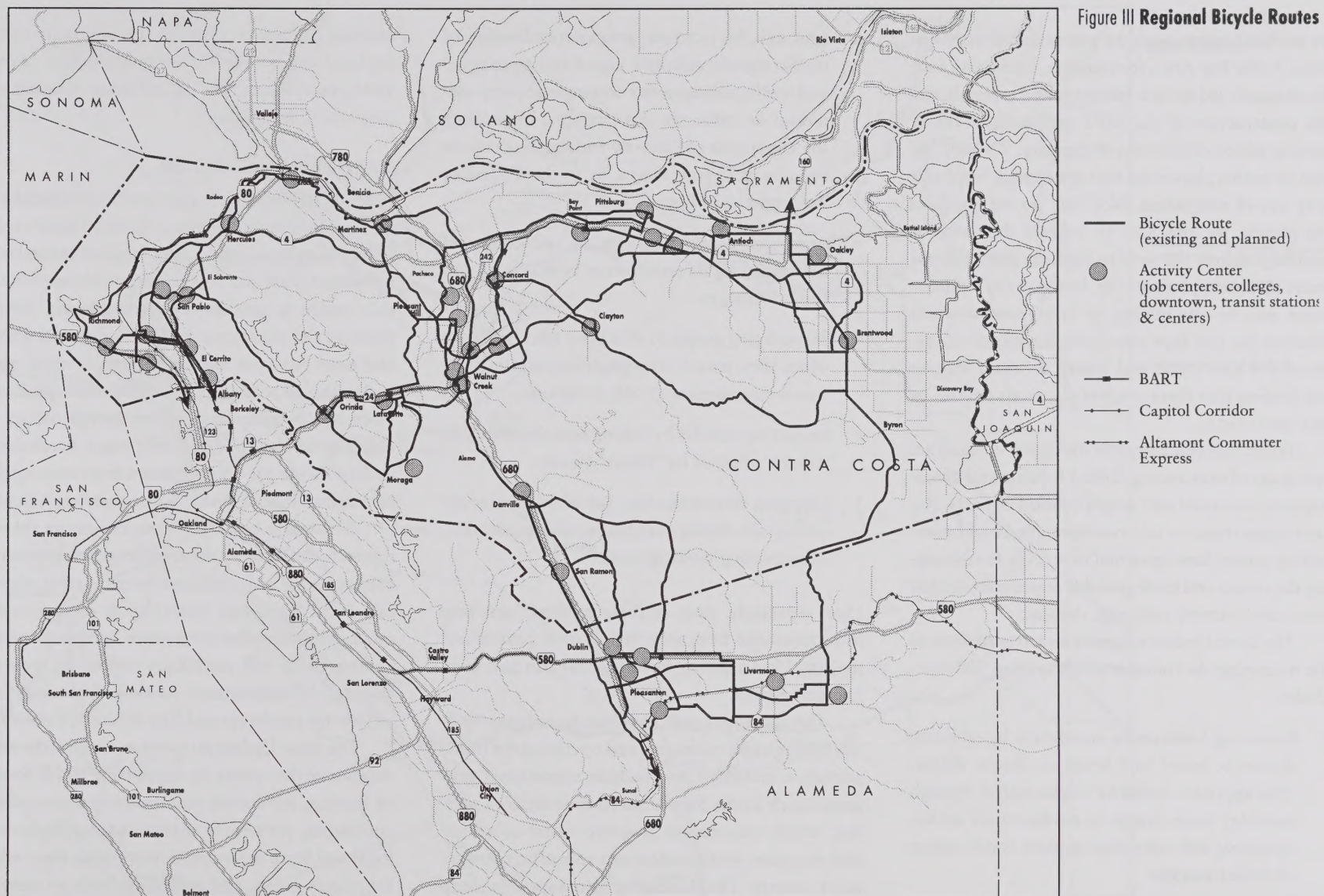
- Improved access to intermodal facilities and trucking-dependent uses by improving the speed of loading and transfers at ports and intermodal facilities and by reducing congestion along access roads
- Construction of weigh-in-motion stations that reduce the time needed to weigh trucks
- Construction of more grade-separated roadways between rail and truck routes, especially on roads to intermodal facilities
- New truck loading zones to ensure that goods can be delivered to businesses efficiently

The Authority has identified the strategies for supporting goods movement within Contra Costa and the region. These strategies include making improvements in the capacity of the roadway system to support truck movement. Examples include grade separations and improvements to access routes to intermodal facilities, especially along the important goods movement routes identified in Figure IV. These routes represent roadways that provide movement through Contra Costa and the Tri-Valley, and access to other important destinations for trucks. The Authority supports designs that will reasonably accommodate trucks on these routes.

MANAGING THE SYSTEM

Historically, local, state and federal governments have tried to deal with increasing traffic demands

Figure III Regional Bicycle Routes



by building more roads or expanding transit systems. In the Bay Area, for example, increasing traffic demands led to new freeways and arterials and the construction of the BART system, both representing major expansions of capacity. We have begun to realize, however, that we cannot build our way out of congestion. Not only do we not have the money, we also need to balance the need for mobility against the need to limit the potential impacts that new projects can have on the environment and on our quality of life. Transportation funding has not kept pace with the growth in demand for new roads and transit services, and we are finding that there are few places acceptable to put new roads.

Improving efficiency and managing demand are two ways of overcoming limited funding and avoiding environmental and neighborhood impacts. Recent innovations in telecommunications and computing power have spawned new tools for managing the system and made possible improvements that were until recently only pipe dreams.

The 2000 Update supports a variety of options for managing the transportation system. These include:

- Removing bottlenecks and delays by allowing drivers to travel with fewer or shorter delays. This approach could be implemented through auxiliary lanes, weigh-in-motion truck scales, electronic toll collection or some combination of these strategies
- Managing the flow of traffic either directly

(through, for example, greater coordination of traffic signals, adaptive signal timing systems and traffic management centers, and ramp metering) or indirectly (for example, by limiting the expansion of capacity for single-occupant vehicles at key gateways, as in the Tri-Valley Transportation Plan)

- Improving decision-making by collecting and disseminating information to both drivers and traffic managers
- Encouraging people to shift how, when and how often they travel through transportation demand management (TDM) programs
- Improving vehicles by linking cars electronically to each other or to “smart” roads
- Charging drivers the full cost of driving by applying tolls during peak hours, raising gas taxes, or increasing parking costs

Used separately, each of these methods can help improve traffic flow, especially within peak travel periods. Used together, however, they can have even greater benefits.

The Authority will continue to support various strategies for managing and operating the transportation system. These include operational programs such as the San Pablo Avenue Smart Corridor, which includes an adaptive signal coordination program with connections to traffic management centers. The Authority also supports ramp metering where it can improve flow on freeways

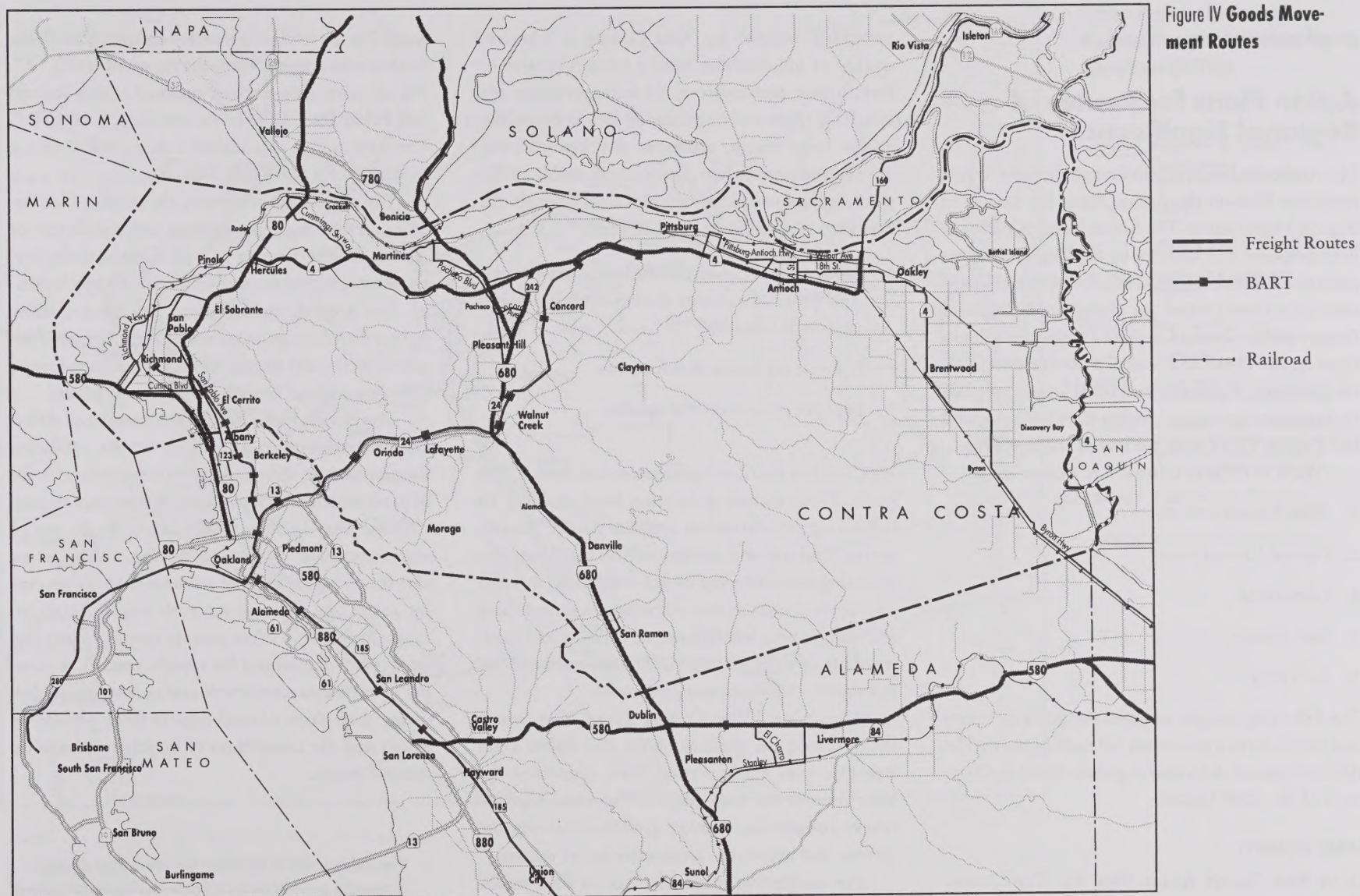
without shifting congestion and delays to adjoining local streets. The Authority has long supported TDM programs and the 2000 Update recommends continuing this support.

MAINTAINING THE SYSTEM

Federal, State and local agencies have invested hundreds of millions of dollars in Contra Costa’s transportation infrastructure, from local streets and trails to the Interstate and BART systems. Maintenance of this system is necessary for two reasons. First, it protects the significant investment that taxpayers and users have put into the system. Second, rough and potholed roadways result in slower speeds and more bus breakdowns. Slower speeds reduce the capacity of the roadway and more breakdowns make it harder for transit systems from meeting their schedules which results in fewer passengers carried.

To preserve our investment and ensure the continued functioning of the transportation system, the Plan proposes to focus a significant portion of available local, State, and federal funds on maintaining our existing transportation system. MTC estimates that Contra Costa will need \$443 million to meet this shortfall in maintenance funding, including \$400 million for roadways and \$43 million for transit.

The 2000 Update proposes to support the maintenance of the system by supporting stable sources of funding for transit and roadway maintenance, continuing preventive maintenance programs by local and State agencies (or instituting them where they don’t exist), and providing funds to meet the backlog of maintenance needs on the local and re-



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MAINTAINING THE SYSTEM

Federal, State and local agencies have invested hundreds of millions of dollars in Contra Costa’s transportation infrastructure, from local streets and trails to the Interstate and BART systems. Maintenance of this system is necessary for two reasons. First, it protects the significant investment that taxpayers and users have put into the system. Second, rough and potholed roadways result in slower speeds and more bus breakdowns. Slower speeds reduce the capacity of the roadway and more breakdowns make it harder for transit systems from meeting their schedules which results in fewer passengers carried.

To preserve our investment and ensure the continued functioning of the transportation system, the Plan proposes to focus a significant portion of available local, State, and federal funds on maintaining our existing transportation system. MTC estimates that Contra Costa will need \$443 million to meet this shortfall in maintenance funding, including \$400 million for roadways and \$43 million for transit.

The 2000 Update proposes to support the maintenance of the system by supporting stable sources of funding for transit and roadway maintenance, continuing preventive maintenance programs by local and State agencies (or instituting them where they don’t exist), and providing funds to meet the backlog of maintenance needs on the local and re-

gional transportation system.

Action Plans for Routes of Regional Significance

The Authority has built the Comprehensive Transportation Plan on the Action Plans for Routes of Regional Significance. The Action Plans, which have been prepared and updated by the Regional Transportation Committees or RTPCs, establish traffic service objectives (TSOs) for designated Regional Routes within Contra Costa and actions to achieve those TSOs. These Regional Routes include all of the freeways, highways, and other major arterials that connect the regions within Contra Costa, and link Contra Costa with the rest of the Bay Area.

The RTPCs have created five Action Plans:

1. West County
2. Central County
3. Lamorinda
4. East County
5. Tri-Valley

The following section outlines the goals or tenets and traffic service objectives for each of these. The Action Plans are described in greater detail in Chapter 6 of the 2000 Update.

WEST COUNTY

In its West County Action Plan, the West Contra Costa Transportation Advisory Committee's

(WCCTAC) "vision" for West County is improved quality of life resulting from a comprehensive effort to plan and improve the transportation system. This effort will be guided by five key considerations: mass transit, economic development, balanced land use, urban design, and multi-agency planning and coordination. WCCTAC's primary Action Plan goals include the following:

- Facilitate and encourage the use of mass transit and other alternative transportation choices such as ridesharing
- Promote economic development
- Improve environmental quality

WCCTAC has also developed secondary Action Plan goals. These include enhancing local mobility by improving circulation on regional routes, coordinating land use and transportation planning, emphasizing pedestrian and bicycle design that includes appropriate scale, access and safety considerations, and maintaining local economic viability and quality of life by emphasizing viable transit alternatives to single occupancy commute travel.

The updated West County Action Plan, which incorporated the policies of the San Pablo Dam Road/Camino Pablo Action Plan, organized the TSOs around the four goals of the 2000 Update: relieve congestion, manage growth, maintain the system, and encourage alternative travel modes.

For congestion relief, the Action Plan established level-of-service (LOS) standards for all road-

ways. For more heavily traveled arterials (San Pablo Avenue and Appian Way), the standard is LOS "E". For all other non-freeway regional routes (except San Pablo Dam Road), the standard is LOS "D". The Action Plan established a delay index¹ of 2.0 as the TSO for San Pablo Dam Road.

For system maintenance, the Action Plan focuses on maintaining pavement and transit service quality in West County as well as maintaining levels of satisfaction for transit riders at 1999 levels.

For growth management, the West County Action Plan focuses on reviewing local General Plan amendments and air quality requirements to ensure that they address growth management issues.

The Action Plan establishes a number of different TSOs relating to alternative modes, reflecting the emphasis in West County on supporting the use of mass transit and other alternative transportation choices. They include TSOs relating to the use of single-occupant vehicles (achieving a drive-alone rate for commute trips of no more than 75 percent by 2005) and increasing transit ridership (an increase in ridership of ten percent between 1999 and 2005, both overall and for specific routes). A number of TSOs measure bicycle and pedestrian use (increase their share of total trips to three percent by 2005) and the completion of bicycle networks on specific routes.

¹ The delay index is the ratio of travel time during congested periods to travel time during uncongested or "free flow" periods.

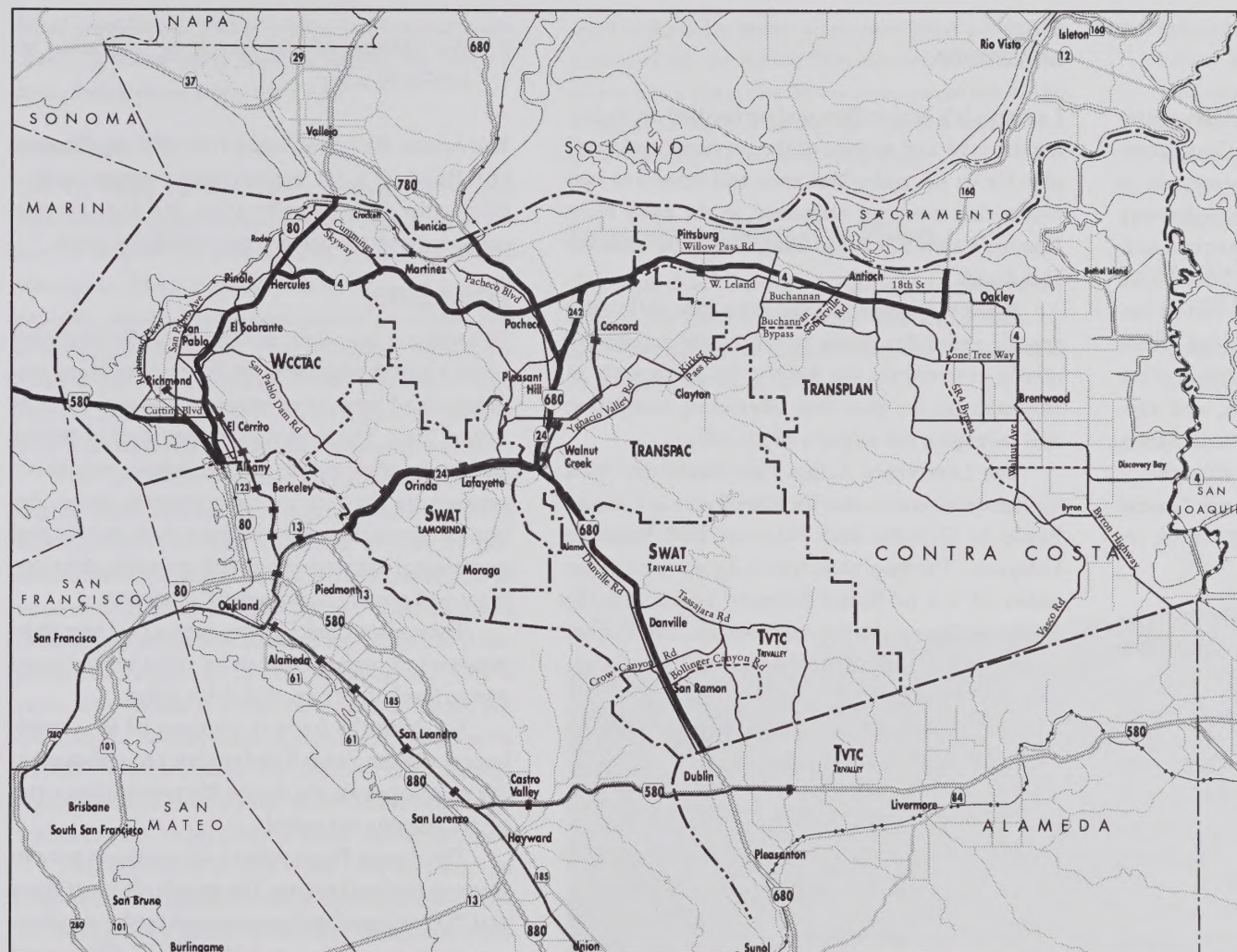


Figure V Regional Routes and Regional Transportation Planning Committees (RTPCs)

- Routes of Regional Significance
- Potential Future Routes
- BART
- Capitol Corridor/Amtrak
- Altamont Commuter Express
- WCCTAC** West Contra Costa Transportation Advisory Committee
- TRANSPAC** Transportation Partnership and Cooperation (Central County)
- SWAT** Southwest Area Transportation Planning Committee (includes the Contra Costa portion of Lamorinda and Tri-Valley)
- TRANSPAN** Transportation Planning Committee (East County)
- TVTC** Tri-Valley Transportation Council

CENTRAL COUNTY

In its Central County Action Plan, the Transportation Partnership and Cooperation Committee (TRANSPAC) has retained the three tenets from its previous plan: the commitment to improve freeway corridors for through traffic; establishment of a traffic management plan to manage traffic flow within Central County; and supporting viable transit service. Two additional tenets were also added. These include supporting continued implementation of the TRANSPAC-TRANSPAN TDM program, and supporting development of a Countywide Goods Movement Plan to facilitate the movement of freight.

As in the original plan, the updated Central County Action Plan establishes four TSOs for regional routes:

1. A minimum average speed of 30 miles per hour on freeways (except on SR 4 from Willow Pass to SR 242 where it is 24 miles per hour) and 15 miles per hour on arterials
2. Maintain the existing delay index in corridors where it is less than 2.0, and improve it to at least 2.0 where it is higher (except on SR 4 from Willow Pass to SR 242 where the maximum delay index is 2.5)
3. Increase trips made on transit by two percent per year
4. Increase the vehicle occupancy rate during peak hours to 1.2 or better by 2010

LAMORINDA

Lamorinda's Action Plan update focused on updating the TSOs and actions of the previously adopted plan for SR 24, and added TSOs and actions to two routes that were not addressed in the 1995 Plan: Camino Pablo/San Pablo Dam Road and Pleasant Hill Road.

While the updated Action Plan does not include specific principles, goals, or tenets, the actions are clearly centered on the Authority's goals with an emphasis on the first two: alleviating congestion and managing the impacts of growth.

The Lamorinda Action Plan establishes TSOs for three regional routes: for State Route 4, Camino Pablo in Orinda, and Pleasant Hill Road in Lafayette. The two TSOs for SR 24 are 1) a delay index of 2.0 or better between I-680 and the Caldecott Tunnel during peak periods, and 2) a ten percent increase in ridership on the Bay Point-Colma BART line by 2010.

Five TSOs have been established for Camino Pablo/San Pablo Dam Road:

1. A delay index of no more than 2.0 by 2005
2. A maximum wait of no more than one signal cycle for vehicles entering from side streets
3. An average occupancy during the peak hour of 1.30 per vehicle by 2005
4. A ten percent increase in bus ridership to 3,000 weekday riders on average, by 2005

5. The addition of new bicycle or pedestrian facilities by 2005

The Action Plan established two TSOs for Pleasant Hill Road: 1) a ten percent improvement (reduction) in the delay index by 2010, and 2) an average occupancy of 1.2 persons per vehicle by 2010.

EAST COUNTY

TRANSPAN has taken advantage of the flexibility of the Growth Management Program to blend traditional and innovative measures and actions in its Action Plan. The Action Plan uses level-of-service standards, delay indices, and peak-hour vehicle occupancy for the TSOs for most regional routes. Actions to attain these TSOs balance road, transit, and operational improvements with economic development and growth management programs.

The updated East County Action Plan uses three measures of performance in its TSOs: vehicle occupancy, level of service, and delay index.

For both the freeway portions of SR 4 westbound and the Vasco Road corridor southbound in the morning peak, the Action Plan establishes a TSO of 1.2 persons per vehicle.

The Action Plan applies LOS standards to non-freeway regional routes. The standards range from LOS "D" at signalized intersections on the non-freeway portions of SR 4, to LOS mid-"E" (95 percent of capacity) on Kirker Pass Road, Byron Highway, and Marsh Creek Road-Camino Diablo-Deer Creek Road.

For the freeway portions of SR 4 and the Vasco

Road corridor the TSO is a delay index of no more than 2.5; for all other regional routes, the TSO is a delay index of no more than 2.0.

TRI-VALLEY

The Tri-Valley Transportation Council (TVTC) has formulated its plan based on three contributing factors to achieve the best level of service within its subregion. These factors include financial considerations, physical limitations within corridors, and development patterns. This approach recognizes existing capacity restraints at the “gateways” into the area and focuses its efforts on balancing growth with roadway and transit improvements within.

The Tri-Valley has grown vigorously over the last ten years and forecasts suggest that this growth will continue. The area is forecast to have 45 percent more households and 59 percent more jobs in 2020 than in 2000. Both today and in the future, a ratio of one employed resident for every job is expected. Development of both housing and jobs is expected to occur at lower, suburban densities. Because such a development pattern is difficult to serve effectively with transit, the Action Plan supports higher density, more transit-oriented developments within the Tri-Valley close to mass transit facilities.

The Tri-Valley Action Plan uses intersection level-of-service standards for arterials. Most arterials were given a TSO of a volume-to-capacity ratio that is less than 0.9; the remainder were given a TSO of a volume-to-capacity ratio that is less than or equal to 0.91. For I-680 and I-580, the Action Plan establishes a TSO of an average speed of 30

MPH and a delay index of no more than 2.0 during peak periods; the Action Plan also established a TSO of no more than five hours congestion for I-680 south of SR 84. For SR 84, the TSO is a volume-to-capacity ratio of no more than 0.99.

Implementing the Plan

The Authority — with the essential support of the RTPCs, the local jurisdictions that make them up and other partners — has accomplished a great deal in the first ten years of Measure C:

- Funded \$475 million in projects and programs called for in the Measure, including the extension of BART to the Bay Point/Pittsburg station, the Richmond Parkway, the widening of State Route 4, the Martinez Intermodal Facility, and the improvement of arterial streets throughout Contra Costa;
- Provided \$36 million in operating funds for transit providers in Contra Costa;
- Returned \$75 million in sales tax revenues to local jurisdictions for the maintenance and im-



provement of local streets and roads;

- Implemented the Regional Transportation Mitigation Program which could generate as much as \$350 million in private sector contributions to transportation improvements through revenues from fees and other exactions;
- Established the Measure C Growth Management Program that requires local jurisdictions to adopt a growth management element, adopt a development mitigation program, participate in cooperative planning, develop a five-year capital improvement program, adopt a transportation demand management ordinance, and address the balance of jobs and housing opportunities within the community;
- Provided a process for cooperative multi-jurisdictional planning in Contra Costa and the Tri-Valley, including the Action Plans and the countywide Comprehensive Transportation Plan;
- Established countywide TDM incentive programs which have served as a model for other areas;
- Created tools in the form of travel demand models and a land use database for use in regional and local planning;
- Served as a forum for discussing and resolving growth management and transportation issues affecting Contra Costa; and
- Worked as the voice for all of the jurisdictions

and agencies in regional and statewide processes and forums, including the State Transportation Improvement Program, the Bay Area Partnership and the Congestion Management Agency Association.

Nonetheless, a great deal remains to be done to achieve the Plan's vision: planned projects must be funded and completed, and programs to maintain, manage and expand the system need to be carried out effectively and efficiently.

PROGRAMMED AND PLANNED PROJECTS

The strategies of the 2000 Update rely on the development of a number of new projects. Some of these are funded and under construction, some are assumed to be funded sometime in the next 20 years, and others have no identified funding but are still important to achieving the Authority's vision and goals.

Figures VI and VII outline some of the major projects, programs and other efforts recommended in the 2000 Update. The first shows projects and programs that are programmed for funding through the State Transportation Improvement Program or included in Track 1 of the Metropolitan Transportation Commission's financially-constrained Regional Transportation Plan. Projects included in the RTP have first priority on transportation funding over the next 20 years. The second map shows projects without identified funding. These projects would need to be funded by new sources. Such funding could include an extension of Measure C be-

yond its 2009 sunset, a new regional gas tax, or other sources.

These two figures show only major transportation improvements. In addition to the projects shown in these figures, many other projects, programs and studies have been proposed. Many will be funded within the 20-year RTP Track1 and CTP time frame; others will not.

OTHER IMPLEMENTATION ACTIVITIES OF THE AUTHORITY

Besides building new projects or expanding transportation programs, the Authority is committed to carrying out a number of other activities that are essential to achieving the vision of the 2000 Update. These activities include:

- Continuing activities as the CMA for Contra Costa, such as the biennial update of the Congestion Management Program, operation and enhancement of the CMP model, monitoring of level-of-service standards, and the continuing involvement in regional partnerships;
- Various studies and plans including the East-Central Traffic Management Study, the State Route 4 Corridor Study, and corridor studies for State Route 239 and I-680;
- Preparation of a Countywide Bicycle and Pedestrian Facilities Plan; and
- Updating the Authority's programs and procedures including the Strategic Plan and requirements for the Growth Management Program.

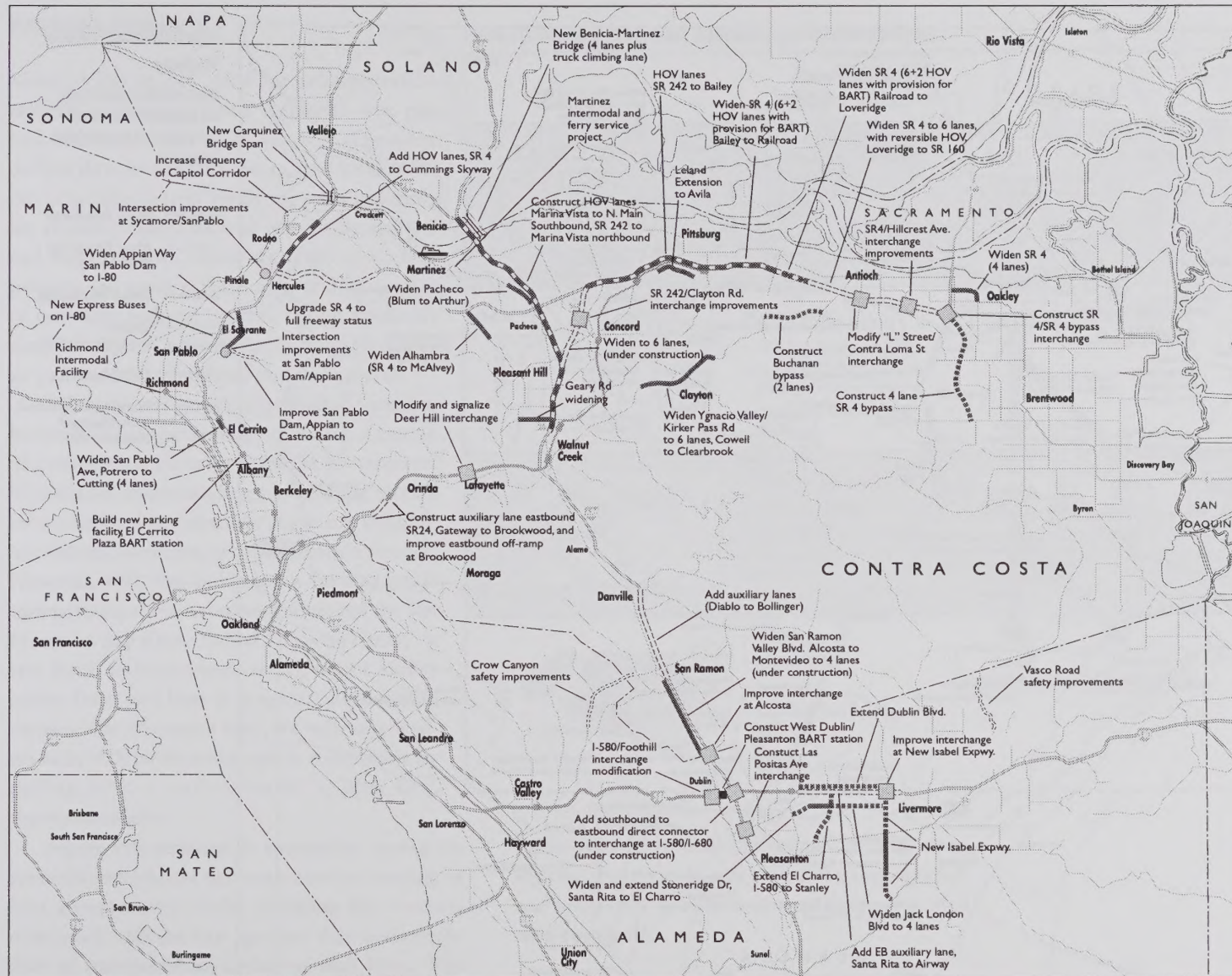


Figure VI Programmed and RTP Track 1 Projects

Representative projects only; see Appendix B for the full Comprehensive transportation Project List

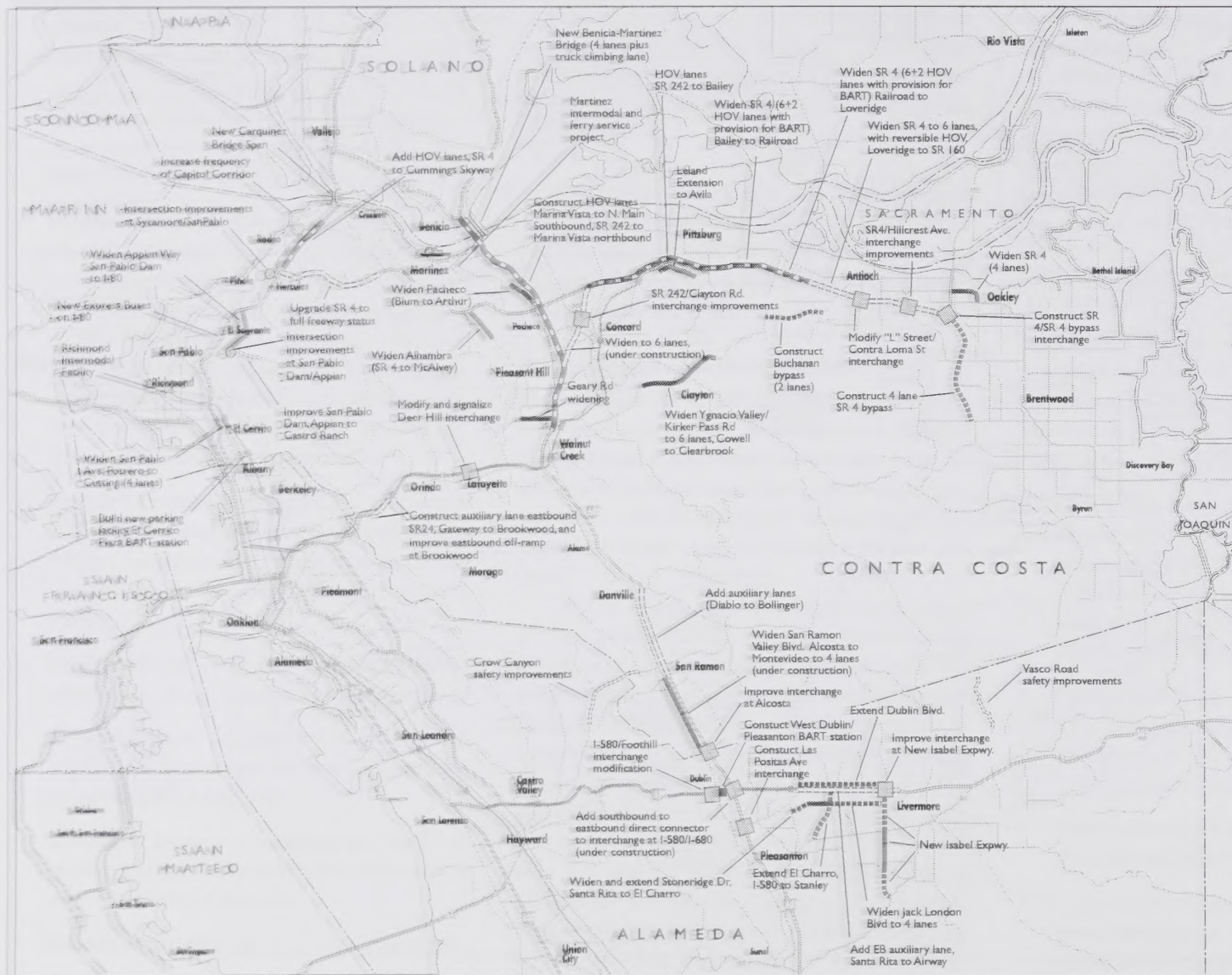


Figure VII **Other Future Projects**

Representative projects only;
see Appendix B for the full
Comprehensive transportation
Project List

-  **New Roadway**
-  **New Freeway/
Widening**
-  **Road Widening**
-  **Other
Improvements**
-  **HOV lanes**
-  **New or Upgraded
Interchange/
Intersection**

FUNDING OVERVIEW

Most of the money used for transportation projects is generated from taxpayers who pay fuel, sales and other taxes and fees. These tax dollars flow into federal, State, and local funding pots. The federal funds are used primarily for capital projects such as new highways and rail construction. State funds go to capital projects and cover maintenance and operations of our state highway system. Local funds are used for capital, operations, and maintenance, as well as to match federal and State grants.

When it comes to actually funding a project, however, the project sponsor confronts a myriad of programs at different levels of government. This makes understanding the funding picture more challenging, especially if you are unfamiliar with the acronyms of transportation finance. However, MTC has published a funding guide summarizing transportation sources for the San Francisco Bay Area. Called “Moving Costs,” it sets forth, in lay-person’s terms, where money comes from and how it is spent. Rather than recount that document here, we refer our readers to MTC’s publication, which is available by calling MTC, and on MTC’s Web site, www.mtc.ca.gov.

Figure VIII attempts to summarize agency responsibilities relative to transportation funding, at four governmental levels, including the revenues controlled, and the key agencies that oversee the flow of transportation dollars at each level. The

Figure VIII **Funding Programs, Revenues and Responsibilities**

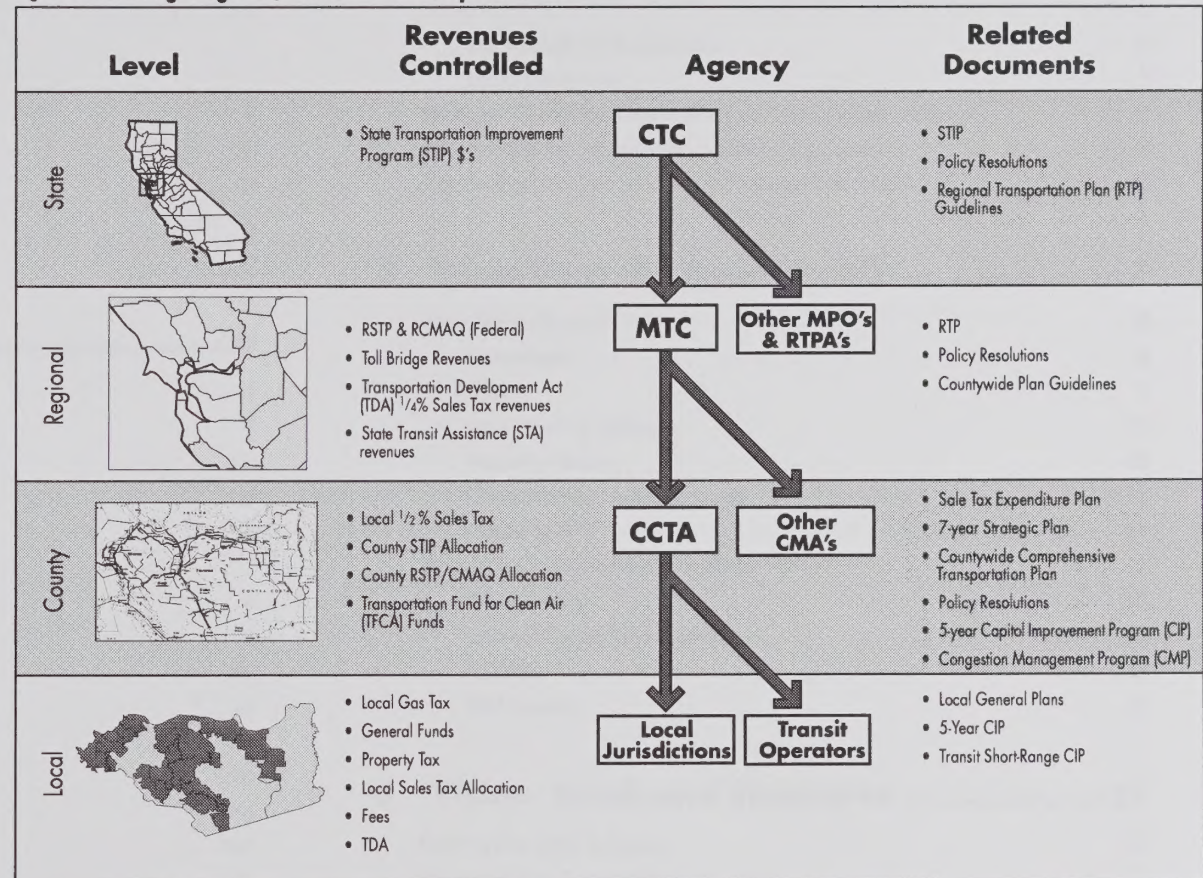


figure gives an overall perspective on how state, regional, countywide, and local dollars are directed, and shows the project documentation associated with each level.

Table 1.1 Summary of Transportation Planning Products	
Product	Description
Countywide Comprehensive Transportation Plan	The Countywide Comprehensive Transportation Plan (CCTP) is the primary transportation planning document for the County of San Diego. It provides a long-range vision for the County's transportation system and serves as a guide for the development of more detailed transportation plans. The CCTP is updated every five years.
Regional Transportation Plan	The Regional Transportation Plan (RTP) is a document that provides a long-range vision for the transportation system of the San Diego region. It is developed by the San Diego Association of Governments (SANDAG) and serves as a guide for the development of more detailed transportation plans. The RTP is updated every five years.
Metropolitan Transportation Plan	The Metropolitan Transportation Plan (MTP) is a document that provides a long-range vision for the transportation system of the San Diego metropolitan area. It is developed by the San Diego Metropolitan Transportation Planning Board (SDMTPB) and serves as a guide for the development of more detailed transportation plans. The MTP is updated every five years.
Local Transportation Plan	The Local Transportation Plan (LTP) is a document that provides a long-range vision for the transportation system of a specific local area within the County of San Diego. It is developed by the local transportation planning agency and serves as a guide for the development of more detailed transportation plans. The LTP is updated every five years.
Transportation Study	A transportation study is a document that provides a detailed analysis of a specific transportation problem or issue. It is developed by a transportation planning agency and serves as a guide for the development of more detailed transportation plans. Transportation studies are typically developed for specific projects or issues.
Feasibility Study	A feasibility study is a document that provides a detailed analysis of the feasibility of a specific transportation project. It is developed by a transportation planning agency and serves as a guide for the development of more detailed transportation plans. Feasibility studies are typically developed for specific projects.
Design Study	A design study is a document that provides a detailed analysis of the design of a specific transportation project. It is developed by a transportation planning agency and serves as a guide for the development of more detailed transportation plans. Design studies are typically developed for specific projects.
Construction	Construction is the physical implementation of a transportation project. It is typically funded by the County of San Diego, SANDAG, or the SDMTPB. Construction projects are typically funded through a combination of local, state, and federal funds.

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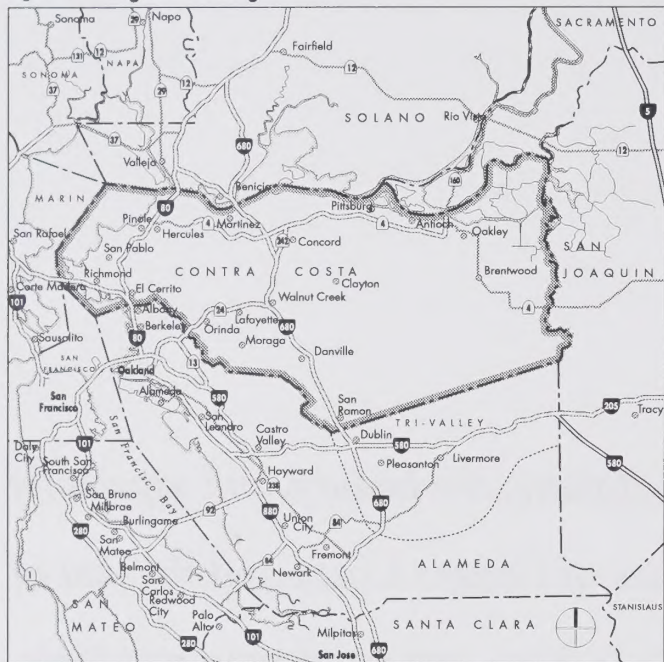
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Introduction

Since the Gold Rush, the climate, the beauty, and especially the economic opportunities of Contra Costa and the rest of the San Francisco Bay Area have attracted new residents. Today's "digital gold rush" is bringing yet another wave of jobs and workers. This new growth is placing ever-greater demands on our transportation system, demands that local, regional and State governments are challenged to meet.

Figure 1.1 Regional Setting



In 1860, the nine-county region had a population of 114,100; today, the Association of Bay Area Governments estimates that its population is almost seven million, a 6,000 percent increase from the time just following the Gold Rush.

The growth of Contra Costa County has been even more dramatic. From a population of only 5,000 in 1860, the county has grown to an estimated population today that approaches one million, a 17,000 percent increase!

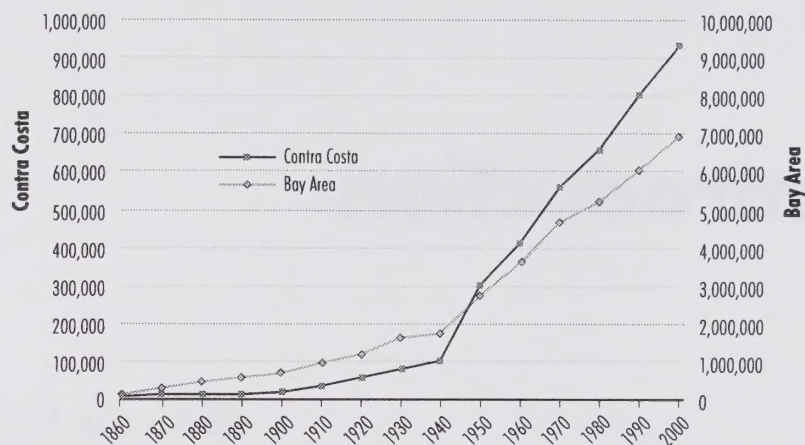
While Contra Costa and the region grew substantially before World War II, after the war growth

in the region really took off. Since 1940, the Bay Area's population is estimated to have tripled in size. Contra Costa's population tripled in size just in the decade between 1940 and 1950. Since 1950, the population of Contra Costa has tripled in size once again.

This housing and job growth has led inevitably to more trips on the Contra Costa's roadways and transit systems. New workers became new residents who became new commuters to work and travelers to shopping, school and other destinations.

Figure 1.2 Historic Population Growth

Contra Costa and San Francisco Bay Area, 1860-2000



THE GROWTH OF THE SUBURBS

The post-war boom in housing, jobs and traffic was accompanied and fed by the creation of the modern American suburbs. After World War II, a new era in ground transportation began, focused on serving this suburban pattern at the edges of the region: low-density housing, new shopping centers, and the growing decentralization of jobs from older job centers to the suburbs.

The new suburbs depended on the automobile. The automobile, ownership of which was already rising steeply during the 1920s and 1930s, provided

families with previously undreamed of mobility. People were less and less dependent on fixed-route transit, whether ferries, trains or buses. Conse-

quently, the share of trips that transit carried began to drop so that today it carries only a fraction of what it carried before 1930.

The Measure C Growth Management Program

The overall goal of the Growth Management Program, or GMP, is to “achieve a cooperative process for Growth Management on a countywide basis, while maintaining local authority over land use decisions and the establishment of performance standards.” The program has several components, which are outlined in the Authority’s *Implementation Documents*.

The Authority is responsible for developing and maintaining computer models for analyzing the effects of land use changes and new transportation improvements. The Authority is also responsible for preparing the *Comprehensive Transportation Plan*, supporting cooperative planning within Contra Costa and monitoring compliance with the program.

Using a formula based on road miles and population, the Authority allocates 18 percent of the sales tax revenues it receives to local jurisdictions that comply with GMP requirements. To receive these funds, each jurisdiction must:

- Adopt a growth management element, as part of its General Plan, that establishes level-of-service

standards for roadways and performance standards for other public facilities;

- Adopt a development mitigation program that ensures that new development pays its fair share of the costs of additional facilities needed to support it;
- Participate in cooperative planning with other jurisdictions in Contra Costa;
- Develop a five-year capital improvement program to meet or maintain traffic service and performance standards;
- Adopt a transportation demand management ordinance that complies with the direction of the Authority; and
- Address the balance of jobs and housing within the jurisdiction.

To date, all local jurisdictions have complied with the GMP and have received these funds. The Authority has allocated \$80 million from the inception of the program in 1988 to today.

LOCAL RESPONSES

Local, regional and State governments and other transportation agencies have tried to meet this growing demand and the challenges created by the suburban, auto-oriented pattern of development. The transportation system has been vastly expanded since World War II, not only with new or widened local streets, but also with freeways and a “new age” rapid rail transit system.

While demand on the transportation system continues to grow, funding for the new facilities to address this increased demand has not kept pace. In addition, concerns about the impacts of new roads on neighborhoods, regions and the environment have reduced political support for them. These changes have compelled local governments and transportation agencies to look for new solutions and approaches to providing mobility within the Bay Area.

Measure C and the Comprehensive Transportation Plan

Contra Costa was faced with these issues and other related issues in the 1980s — rising housing costs, growing congestion and commute times, increased sprawl and loss of open space. The first response was a program funded through an increased sales tax and focused solely on transportation improvements. When that measure failed in 1986, a new measure — a revised Measure C — was proposed that combined transportation improvements with



growth management. It was accompanied by Measure AA, a companion ballot measure that provided \$200 million for parks and open space within the East Bay Regional Parks District. In 1988, voters approved both measures.

Measure C established a half-cent sales tax to fund transportation improvements and growth management programs and charged the Contra Costa Transportation Authority with implementing it. (The sidebar on the previous page describes the Measure C Growth Management Program in greater detail.)

The Contra Costa Countywide Comprehensive Transportation Plan outlined in this document is one of the key planning tools called for by the Measure C Growth Management Program. Specifically, Measure C requires the Contra Costa Transportation Authority to:

Support efforts to develop and maintain an ongoing planning process with the cities and the county through the funding and development of a Comprehensive Transportation Plan.

The Regional Transportation Planning Committees

To carry out its responsibilities for a cooperative planning process, the Authority works with the four following Regional Transportation Planning Committees, or RTPCs: the West Contra Costa Transportation Advisory Committee (WCCTAC), the Transportation Partnership and Cooperation (TRANSPAC) Committee in Central County, the Southwest Area Transportation Committee (SWAT) which includes both the Lamorinda and Danville-San Ramon areas, and the Transportation Planning Committee (TRANSPAN) in East County. (The Regional Routes and RTPC boundaries are shown in Figure 20.)

These RTPCs are made up of elected and appointed representatives from each jurisdiction within that region. Officials from transit agencies and planning commissions also serve on some of the RTPCs, either as voting or ex-officio members. A Technical Advisory Committee made up of planning and engineering staff from those jurisdictions assists each RTPC.

Each RTPC oversees one Action Plan, except for SWAT, which oversees two: the Lamorinda cities of SWAT have prepared the Lamorinda Action Plan; Danville, San Ramon and the County have joined with Alameda County jurisdictions to form the Tri-Valley Transportation Council (TVTC). That latter group, which includes Pleasanton, Dublin, Livermore and Alameda County as well as the Contra Costa jurisdictions, has prepared and updated the Tri-Valley Transportation/Action Plan.

In addition to their responsibilities for preparing and updating the Action Plans, the RTPCs are involved in various transportation planning efforts. TRANSPAN, TRANSPAC and SWAT, for example, are currently involved in the ramp metering study for I-680 and SR 4, while WCCTAC is working with Alameda County jurisdictions on the San Pablo Avenue SMART Corridor project.

The Authority adopted its first Comprehensive Transportation Plan in 1995. This document — the 2000 Update — represents the first major update to it.

The Countywide Plan is intended to provide the overall direction and a coordinated approach for achieving and maintaining a balanced and functional transportation system within the county while

strengthening links between land use decisions and transportation. It outlines the Authority's vision for Contra Costa and its transportation system and the goals, strategies, specific projects, and other actions for achieving that vision.

Action Plans for Routes of Regional Significance

As part of the development of a countywide approach, the Plan knits together the Action Plans for Routes of Regional Significance developed by the Regional Transportation Planning Committees (for a description of the RTPCs, see the sidebar on the previous page.) The Plan incorporates the traffic service objectives recommended in the Action Plans and the actions designed to achieve them, and provides a forum for the RTPC to address issues of mutual concern and to achieve their goals through a consistent countywide approach. Chapter 6 provides a further description of the Action Plans. These Action Plans, which were also updated as part of the 2000 Update process, are available in a separately bound compendium.

Contents of the Comprehensive Transportation Plan

The *2000 Update to the Countywide Comprehensive Comprehensive Transportation Plan* is organized into eight chapters including this introduction. **Chapter 2** summarizes how the forecast growth in households and jobs within Contra Costa and the Bay Area will affect the transportation system and what opportunities there are for addressing these impacts.

Chapter 3 outlines the overall vision and goals the Authority has endorsed and the strategies it has outlined for achieving the vision and goals.

Chapter 4 describes the transportation system and the Authority's strategies and policies for addressing the overall issues facing the transportation system. This chapter first discusses the components of the system — roadways, transit, HOV facilities, bicycles and pedestrians, and freight movement — before addressing its management, operation and maintenance.

Chapter 5 addresses how growth management and land use can help achieve the Authority's vision and goals. Some of the strategies outlined in Chapter 3 are growth-management related; Chapter 5 describes those strategies and the potential benefits and difficulties of implementing them.

Chapter 6 describes the principles, tenets, and regional goals and actions adopted in the five Action Plans. **Chapter 7** describes issues that lend themselves to consideration within the six travel corridors identified within Contra Costa and the Tri-Valley. This chapter builds on and incorporates the specific projects, programs and other actions outlined in the Action Plans, emphasizing the cooperative actions among the RTPCs for addressing these issues.

Chapter 8 outlines a program of actions designed to achieve the Authority's vision and goals. These actions focus on the steps that the Authority and its member agencies should take to carry out the *Comprehensive Transportation Plan*.

The plan document also contains appendices that list the Regional Routes, and the TSOs and actions that apply to each, in detail, as well as a full listing of the projects and programs in the Comprehensive Transportation Project List (CTPL).

What Does the Future Hold?

For the last 50 years, Contra Costa and the Tri-Valley have grown faster than the Bay Area as a whole. The Association of Bay Area Governments forecasts that this pattern will continue for at least the next 20, with new residents looking for housing opportunities and new businesses spilling over from the boom in the Silicon Valley. How will this growth transpire and what effects will it have on traffic and movement? This chapter tries to answer those questions.

How Much Growth? ¹

HOUSEHOLDS

As shown in Figure 2.1, ABAG forecasts the Contra Costa-Tri-Valley area to add 115,000 new households between 2000 and 2020, a 29 percent increase. It is also expected to grow at a faster rate than the Bay Area as a whole. Between 2000 and

¹ The information in this chapter is derived from ABAG *Projections '98*, MTC's 1998 RTP traffic forecasts, and the CCTA 1999 CMP and subarea travel demand models.

2020, ABAG is forecasting a 1.2 percent annual increase in households in Contra Costa while the Bay Area is expected to add only 0.7 percent more households annually.

This growth will not be spread evenly throughout Contra Costa, however. While all four subareas within Contra Costa will grow, some will grow more rapidly than others. As the graph in Figure 2.2 shows, West County is forecast to add the fewest households between 2000 and 2020. Only about 10,000 new households are forecast for that area, a 12 percent increase. The number of new households in Central County and Lamorinda are also projected to grow about 12 percent during those 20 years and it will remain the most populous part

of the Contra Costa/Tri-Valley area. Both Tri-Valley and East County, however, are forecast to grow substantially. The ABAG forecast for Tri-Valley shows about 46,000 new homes — a 44 percent increase — while the East County forecast shows an almost 60 percent increase in those 20 years, or about 42,000 new homes.

How much of that has already been approved? About 43 percent of it, as shown in Table 2.1, or 49,000 homes. Even if no further approvals were given, Contra Costa and the Tri-Valley could continue to add new homes at an average rate of 6,000 homes per year out to about 2008. Only then would new approvals be required before new homes could be constructed.

Figure 2.1 **Forecast Growth in Households**

Contra Costa-Tri-Valley and Bay Area, 1980-2020

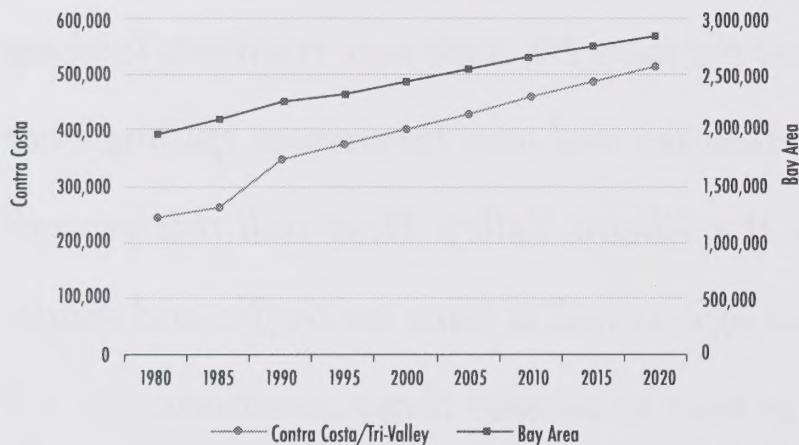


Figure 2.2 **Growth in Households by Subarea**

Existing (2000) and Forecast Growth to 2020

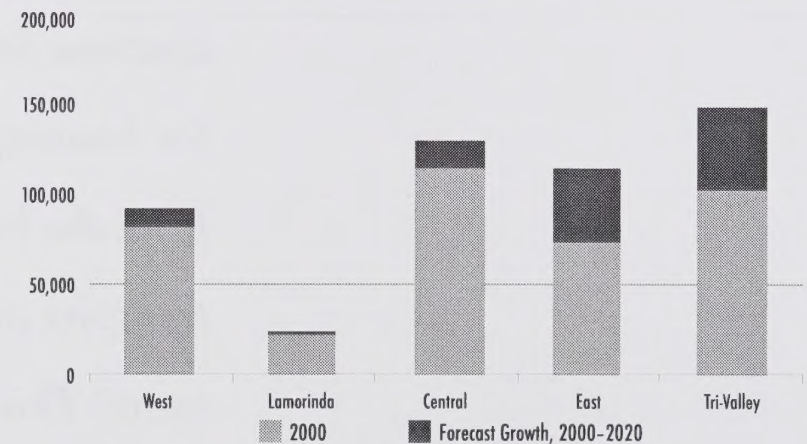


Table 2.1 Approved Versus Expected New Households
Projected Housing Growth Between 2000 and 2020

Subarea	Approved [†]	Expected	% Approved
West County	1,300	10,300	13%
Central/Lamorinda	600	16,500	4%
Tri-Valley (Contra Costa)	12,400	11,800	105%
Tri-Valley (Alameda)	16,000	34,000	49%
East County	17,300	42,000	41%
Total [‡]	49,000	114,600	43%

[†] Source: Survey by Contra Costa Community Development Department

[‡] Includes other small projects in Contra Costa (1,400 dwelling units)

JOBS

As shown in Figure 2.3 below, ABAG is forecasting a 46 percent increase in employment — more than 202,000 new jobs — over the next 20 years, with nearly half of that growth expected to be located in the Tri-Valley. As with household growth, the growth in the number of jobs in Contra Costa and the Tri-Valley will increase faster than in the Bay Area. Contra Costa is expected to grow at an annual rate of 1.7 percent while the region will grow at the still respectable rate of 1.1 percent per year.

As with households, job growth will not be evenly distributed among subareas. The forecasts

illustrated in Figure 2.4 show Tri-Valley getting more jobs than any other area between 2000 and 2020. While East County is projected to have the second greatest increase in jobs, it would still have far fewer than Central County.

It's difficult to talk about approved versus expected jobs. We simply don't have the data, and some of that data is proprietary. Job growth is linked to the performance of the economy. ABAG's forecasts of jobs account for the cyclical nature of business, and allocate job growth using an "optimization" model that satisfies the planning constraints inherent in the General Plans of local jurisdictions.

Figure 2.3 Forecast Growth in Jobs

Contra Costa-Tri-Valley and Bay Area, 1980–2020

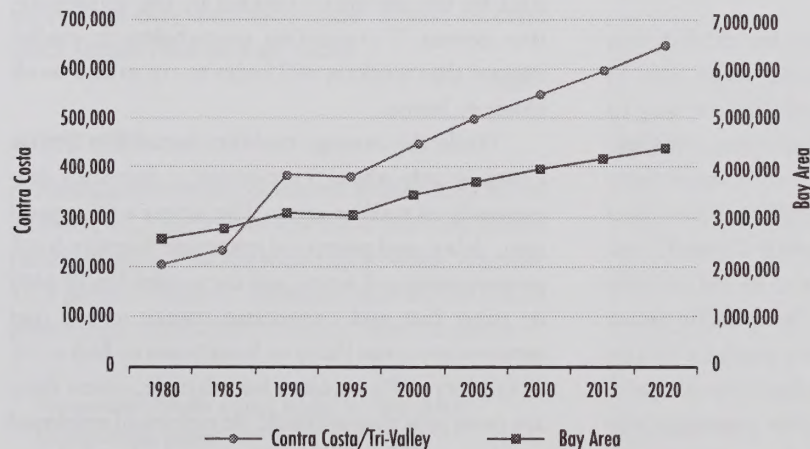
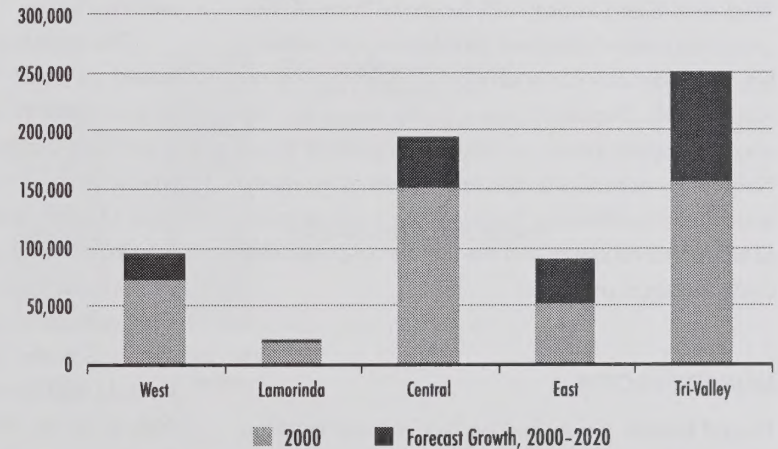


Figure 2.4 Growth in Jobs by Subarea

Existing (2000) and Forecast Growth to 2020



JOBS-HOUSING BALANCE

Achieving jobs-housing balance has often been touted as a promising solution to our traffic woes. The Measure C Growth Management Program in fact requires that each jurisdiction in Contra Costa address jobs-housing balance as it relates to transportation demand.

Balancing jobs and housing is not really about balancing one house to one job. Instead it is about balancing one worker to one job, since each household has, on average, 1.5 workers. ABAG forecasts how many workers (or employed residents) will live in Contra Costa.

While the Central-Lamorinda and Tri-Valley will have about as many employed residents as jobs in 2020, Contra Costa as a whole will have about ten percent more workers living here than jobs for them to fill. (See Figure 2.5.) That's because both West and East County will be more "out of balance" than other subareas. East County, in particular, will have about 1.9 employed residents for every one job. Because Contra Costa currently has about 100,000 more workers than jobs, it must "export" workers. But the net export of workers, which is the difference between the total number of employed residents and the number of jobs, stays fairly constant over time.

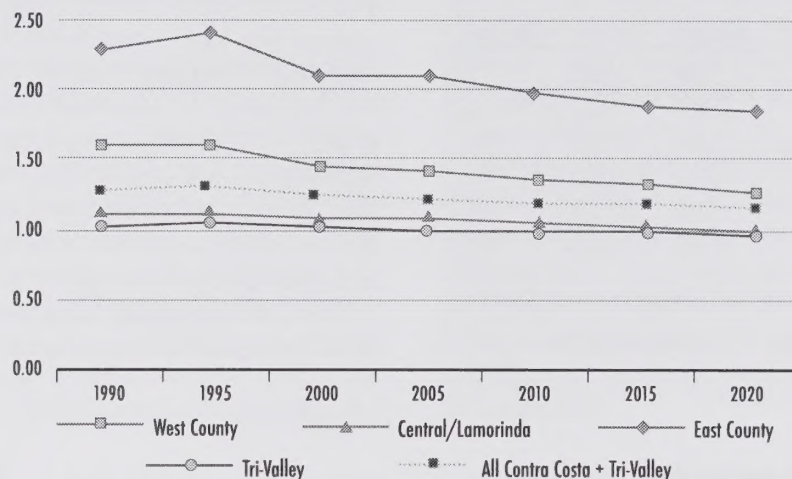
MOBILITY FACTOR

Even if Contra Costa had perfect balance between employed residents and jobs, we would still export

and import workers because of what's called the mobility factor.

The mobility factor accounts for the fact that county or other "legal" boundaries mean little as long as there is a reasonable and efficient way to cross them. If someone can earn higher wages in Oakland or San Francisco, he or she will commute there from Contra Costa, and others will commute from Solano and San Joaquin to take jobs in Contra Costa. Workers may also be commuting to an old job even after moving to a new home. The mobility factor also reflects the fact that the jobs available to employed residents where they live don't always match their skills or desired income. This mismatch also encourages workers to commute longer distances.

Figure 2.5 **Ratio of Employed Residents to Jobs by Subarea**
1990-2020



In any case, this out-commuting is made possible by the mobility provided by the transportation system. If congestion overwhelms it, studies suggest that workers will begin to try to find work closer to home.

While the average mobility factor for Contra Costa is only about 15 percent, it increases dramatically in smaller areas. The absence of congestion, delay, and perceived commute barriers (such as mountains and water) and the availability of BART or other fast and convenient transit means that workers are more likely to leave town to find a job. In the City of Pleasanton, for example, where there are more jobs than workers, 70 percent of employed residents still leave that city to work elsewhere.

OTHER DEMOGRAPHIC CHANGES

In addition to the growth in jobs and households, ABAG is forecasting other important demographic changes between 2000 and 2020. One of the key ones is what has been called the “graying” of the population. We expect to see the median age (that is, the age at which half the population is older and half younger) to creep up from 37.2 in 2000 to 39.9 in 2020. Likewise, the share of people in different age groups will shift significantly. In 2000, the two peaks are around the 5–9 year and 40–44 age groups. In 2020, the peaks will be around the 25–29 and 60–64 age groups. (See Figure 2.6.)

This aging of the population will have impacts on the transportation system, including, most obviously, increasing demands for paratransit services. There may be more subtle impacts as well. Older residents may be more flexible in when they travel as well as how. Improvements in both health and technology may also allow older drivers to drive much longer than they do today.

MODE SPLIT

According to surveys conducted by Bay Area RIDES in 1999, 15.5 percent of Contra Costa’s employed residents use transit for their trip to work. Another 13.3 percent carpool.¹ Forecasts indicate that these percentages should stay constant into the future —

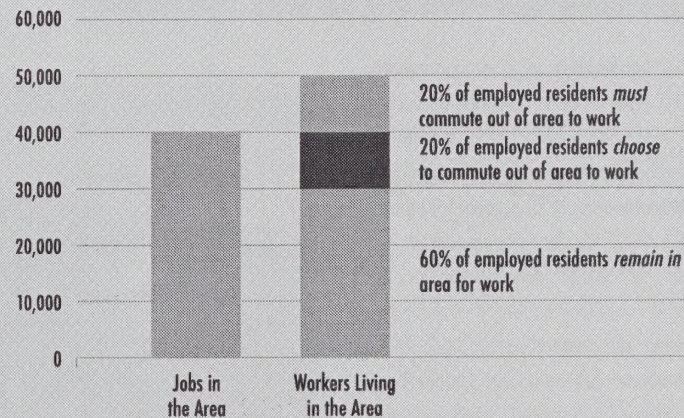
¹ *Commuter Profile 1999*, Rides for Bay Area Commuters, 1999

What is the Mobility Factor?

If more employed residents live in an area than there are jobs for them to fill, at least some workers will need to commute to other areas to work. In an area with 50,000 employed residents but only 40,000 jobs, at least 10,000 residents — 20 percent of the total — must leave for other places to work.

Today’s workers are extremely mobile, living in one area and working in another. It’s rare, in fact, for all of the jobs in an area to be filled only by workers who live there. This “excess” out-commuting can be defined as the *mobility factor*.

The chart below shows how the mobility factor works. Let’s assume that in our hypothetical area, 20,000 workers commute out of the area, not just the 10,000 residents who must, even though there are jobs there that the additional out-commuters could fill. This situation would translate to a mobility factor of 20 percent (that is, 10,000 “voluntary” commuters ÷ 50,000 workers in total). Put another way, 20 percent of workers “choose” to become LOHWOTs — Live Over Here, Work Over There — even though they might be able to find a job closer to home.



that is, according to our computer models, we are not expecting any dramatic change in mode split over the next 20 years.

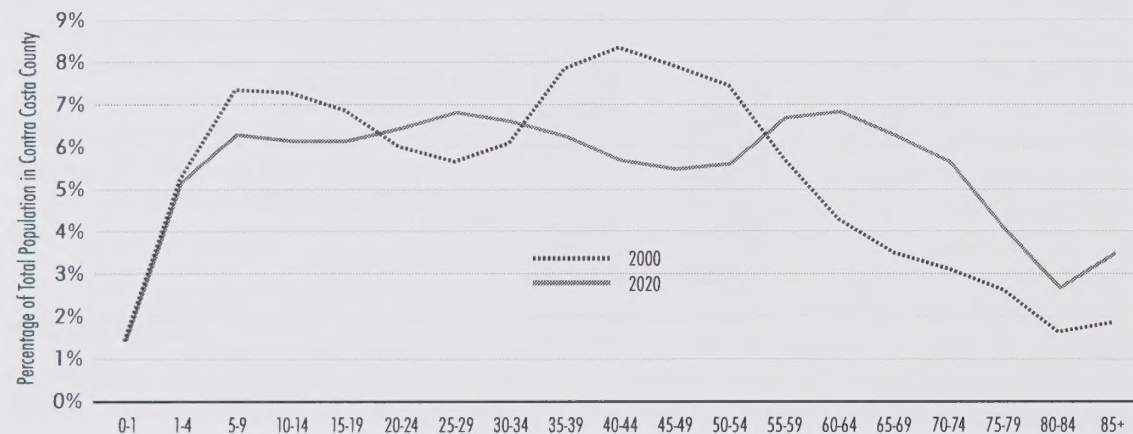
The 15.5 percent transit utilization is for all commute trips with an origin in Contra Costa. If we isolate the work trips that have both an origin and destination in Contra Costa (called intra-county home-based work trips) the percentage using transit drops significantly. According to MTC, only 2.1 percent of Contra Costa intra-county commuters use transit. In the future, this number is expected to drop to 1.7 percent. Carpooling, however, for intra-county commuters, stays relatively high at 12.3 percent.

Automobiles are clearly the predominant mode of travel in Contra Costa and the region. Most trips, whether for commuting or other purposes, are made using the automobile. Our forecasts suggest that the car will remain the dominant mode of travel in the future. The challenge will be to attract more commuters (especially intra-county ones) to transit and to make walking, bicycling and carpools more attractive. Our efforts to build a comprehensive HOV system will help to keep carpooling viable, and open opportunities for attracting more commuters onto express bus. We also hope that the forthcoming bicycle plan will identify opportunities to encourage more walking and bicycling.

How Will Continued Growth Affect Traffic?

Together, the forecast growth in the number of households and jobs in Contra Costa and the sub-areas that make it up, and the pattern that that development is expected to take, will lead to increases in travel and demand on our streets, roads and transit systems. The following sections look at those expected increases for West County, the Central/Lamorinda area, the Tri-Valley and East County.

Figure 2.6 Forecast Changes in Distribution of Population by Age Group, 2000 and 2020



WEST COUNTY

Households

According to ABAG, West County will add 10,250 households over the next 20 years. Half of these new households would be in Richmond, a quarter in Hercules, and the rest scattered among the remaining jurisdictions. These new households would constitute a 12 percent increase.

The approximately 1,350 new housing units currently approved in West County will accommodate only a few years of forecast growth, perhaps only to 2002 or 2003.

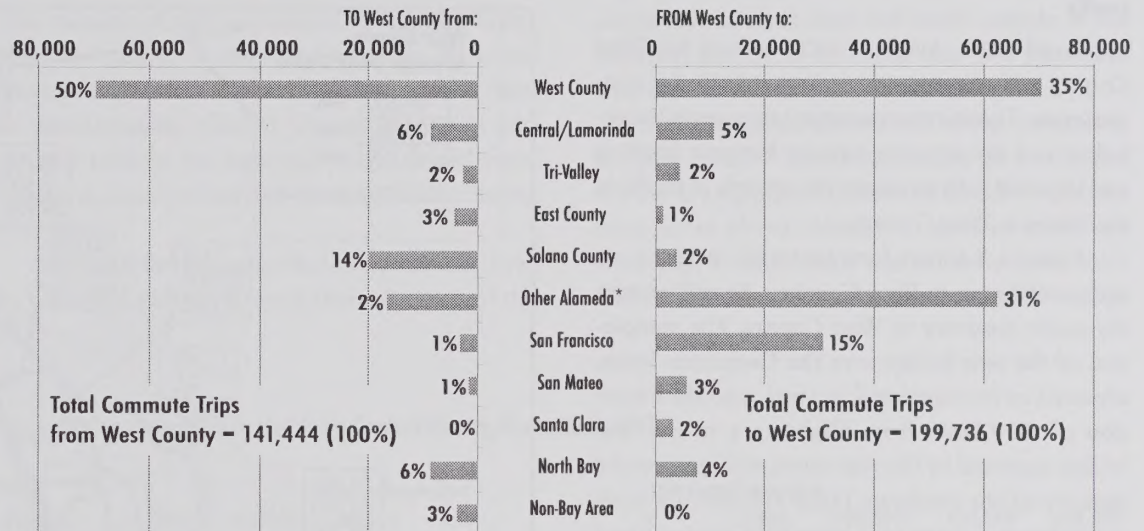
Jobs-Housing Balance

About 17,000 new employed residents are expected in West County by 2020. During the same period, West County is expected to add 23,000 new jobs, a 31 percent increase over its current job base of 72,000.

In the long run, West County's jobs-housing balance is expected to improve, but the subarea will continue to export workers since there will be more workers than jobs. Today, the surplus of workers stands at 35,000. By the year 2020, the surplus is expected to decline to 26,000 more workers than jobs.

As shown in Figure 2.7, relatively few home-based work trips starting in West County — only about 35 percent — stay in this area compared to other parts of Contra Costa. According to our com-

Figure 2.7 Commute Trips To and From West County, 2020



* "Other Alameda" includes the parts of Alameda County outside of the Tri-Valley

SOURCE: Metropolitan Transportation Commission



puter model, the presence of unfilled, high-paying jobs in Oakland and San Francisco and good access via BART and new HOV lanes will continue to entice West County residents, counteracting the improvement in jobs-housing balance.

Not every job in West County will be filled by a resident there, however. Only about 50 percent of work trips to jobs in West County start there. The rest come primarily from Solano County and adjoining parts of Alameda County and to a lesser extent from Central County and the North Bay.

Traffic

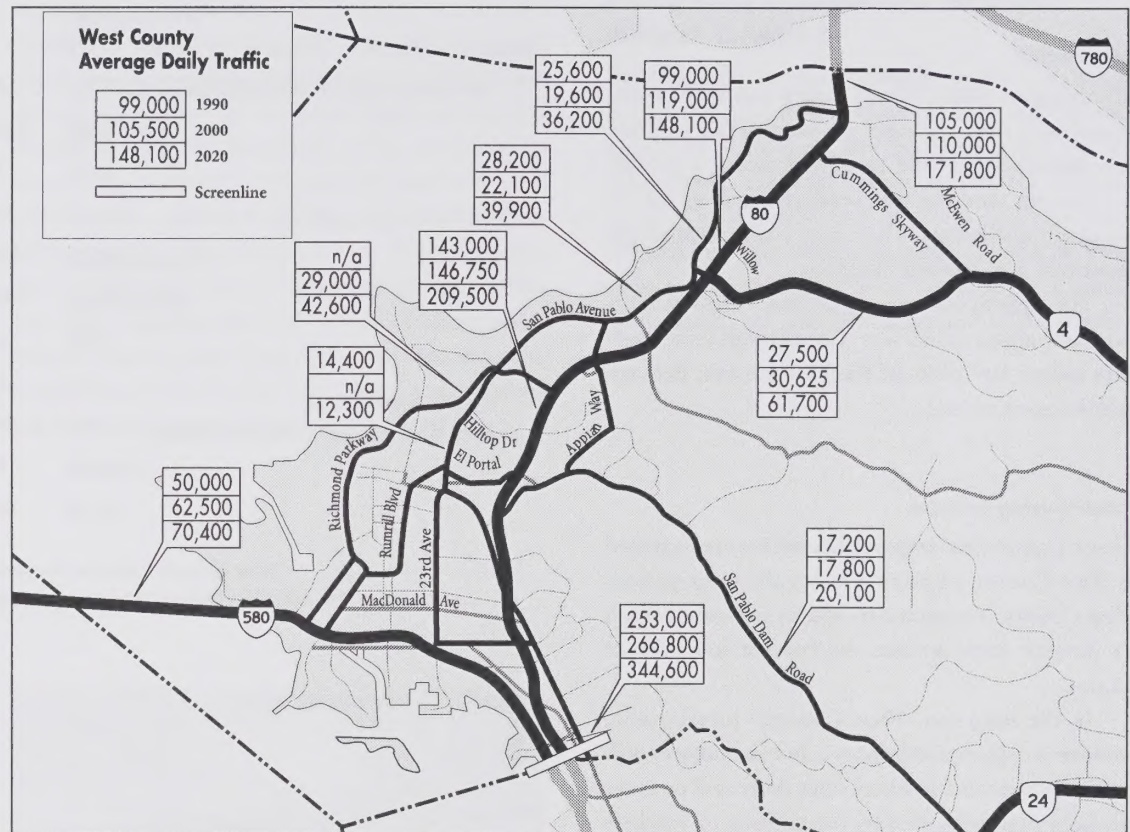
Improved BART, bus, and HOV service for West County will allow continued growth in this out-commute. The relatively modest increases in households, and the stronger balance between housing and jobs will help moderate the growth of traffic in the future in West County.

Figure 2.8 shows forecast traffic increases on major roadways in West County. I-80 will remain the major roadway in West County. The completion of the new bridge over the Carquinez Strait, expected to be completed in 2003, and the extension of HOV lanes from Highway 4 to the new bridge, expected by the year 2010, will increase the capacity of the roadway. Daily volumes are forecast to increase 40 to 50 percent between 2000 and 2020 on I-80, and still higher percentage increases are forecast for Highway 4 West. Other arterials, such as San Pablo Dam Road and San Pablo Avenue, show little traffic growth according to our model.

Traffic speeds on I-80 are currently 25 to 30 MPH during peak commute hours, on average, and are not expected to decrease significantly in the future for single-occupant vehicles. The extent of congestion is expected to creep northward, however.

A trip from Vallejo to San Francisco, which now takes about an hour, is forecast to take one and a half hours in 2010. A trip from Fairfield to Berkeley, which now takes 57 minutes during the peak hour, could, in 2020, take 81 minutes for those who drive alone. Carpoolers should still be able to make

Figure 2.8 West County Average Daily Traffic



Source: CCTA 1999 CMP model

it in under an hour, however.

The upgrading of SR 4 to a full freeway, expected to be completed in 2010, will allow significant increases in volumes on that roadway. While volumes increased only about ten percent over the last decade, our models are forecasting a doubling of volumes with this increase in capacity.

The construction of the HOV lanes on I-80 has reduced the diversion of traffic to adjoining roadways. San Pablo Avenue, for example, saw a decrease of about 60 percent between El Portal Avenue and Hilltop Drive since 1990. Increased demand, however, is expected to increase diversion by 2020, although still below 1990 levels. San Pablo Dam Road, which saw relatively small increases between 1990 and 2000, is expected to see a larger but still relatively small (13 percent) increase by 2020.

CENTRAL COUNTY AND LAMORINDA

Households

A total of 16,500 new households are forecast to be added in the Central County-Lamorinda area between 2000 and 2020, a 12 percent increase. About two-thirds of the growth is expected in Walnut Creek and Concord. Less than six percent of these new homes are approved, which means that growth in Central County could continue only for a year or so before additional approvals would be required for development to occur.

Jobs-Housing Balance

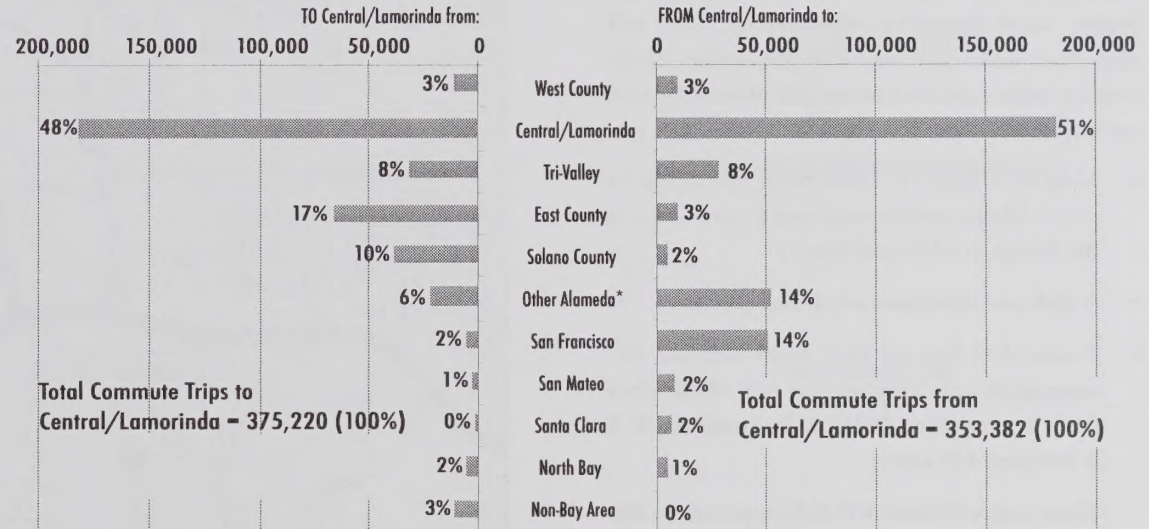
The number of jobs is forecast to increase faster than the number of employed residents. By 2020, these two numbers will meet. That is, assuming that, as ABAG predicts, Central County can really add 45,000 jobs in the next 20 years, it will have achieved a near-perfect jobs-housing balance by the year 2020.

But that doesn't mean that everyone who lives in Central County will work there. Because of the

mobility factor, which MTC's model suggests to be at 50 percent for Central County, about half of the employed residents here will work outside of the subarea, mostly in Alameda and San Francisco counties and in the Tri-Valley. (See Figure 2.9.)

Similarly, while almost half of the workers in the jobs in the Central/Lamorinda area will also live there, a significant number of workers will come from other places. Almost 20 percent will come from East County while around ten percent each will come from Solano County and the Tri-Valley.

Figure 2.9 Commute Trips To and From Central County/Lamorinda, 2020



* "Other Alameda" includes the parts of Alameda County outside of the Tri-Valley
SOURCE: Metropolitan Transportation Commission

Traffic

The adjoining map in Figure 2.10 shows expected daily traffic for 1990, 2000 and 2020 for highways and arterials in Central County. The extent of the I-680/SR 24 interchange improvement project, coupled with other significant freeway widenings on I-680, SR 24 and SR 4, sets Central County apart from the other subareas in terms of the sheer capacity enhancements these roadway investments promise.

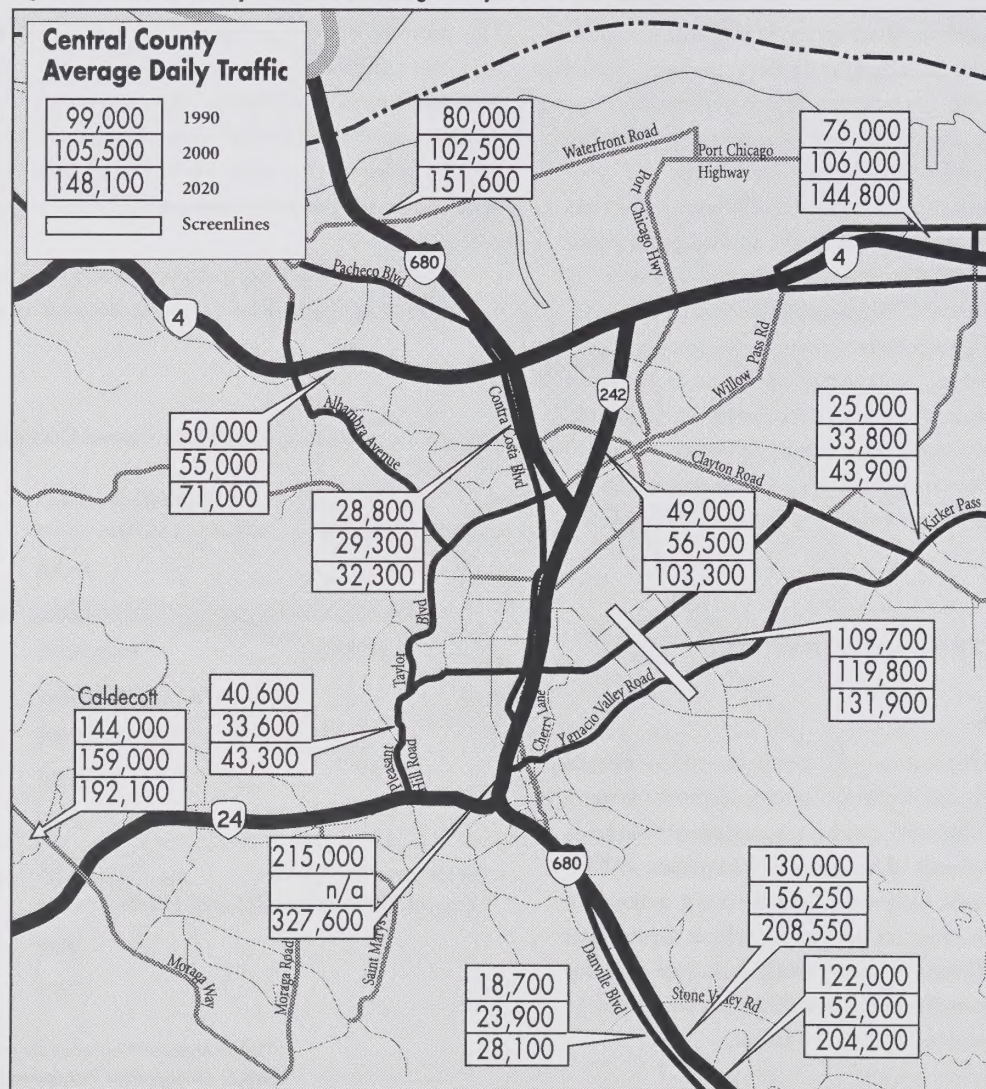
The completion of the I-680/SR 24 project has increased capacity at what was once called “Dys-function Junction” by about 50 percent capacity increase. To the north, the new Benicia/Martinez Bridge, which should be completed by 2003, will allow four lanes each way over the bridge. Other freeway improvements that are just around the corner include:

- New HOV lanes on I-680 from the Bridge to North Main (southbound) and from SR 242 to the Bridge northbound (2003)
- A fifth and sixth lane on SR 242 (2000)
- A new HOV lane on SR 4, from Railroad Avenue to SR 242 (this project will open when the widening from Bailey to Railroad on SR 4 is completed in 2001)

These improvements will help support the significant increases in traffic forecast for the area.

Some of the biggest increases will occur on I-680 itself, especially the portion south of SR 24. As Fig-

Figure 2.10 Central County-Lamorinda Average Daily Traffic



Source: CCTA 1999 CMP model

ure 2.8 shows, volumes are forecast to increase by around 50 percent over the next 20 years. South of the Benicia-Martinez Bridge, volumes would increase around 35 percent, a still healthy increase.

The combination of this traffic growth and planned improvements will affect average travel times and speeds. According to the *Central/East/Southwest Ramp Metering Study*, improvements will significantly increase average speeds and reduce travel times southbound.

New bottlenecks are expected to form on I-680 south of SR 24. While traffic keeps building, no widening of I-680 is planned (although auxiliary lanes are planned between Diablo and Bollinger Canyon roads). The duration of congestion is expected to lengthen, from two hours today to four hours in 2010.

Significant increases are also expected in the commute from East County. Volumes over the Willow Pass on SR 4 are forecast to increase by 50 percent as are volumes on Kirker Pass Road. These increases could result in considerable spreading of the peak period. Volumes on SR 242 are also expected to increase, from around 55,000 vehicles per day to over 120,000, a 118 percent increase. These increases reflect, in part, the increase in capacity from the widening project currently under construction.

TRI-VALLEY

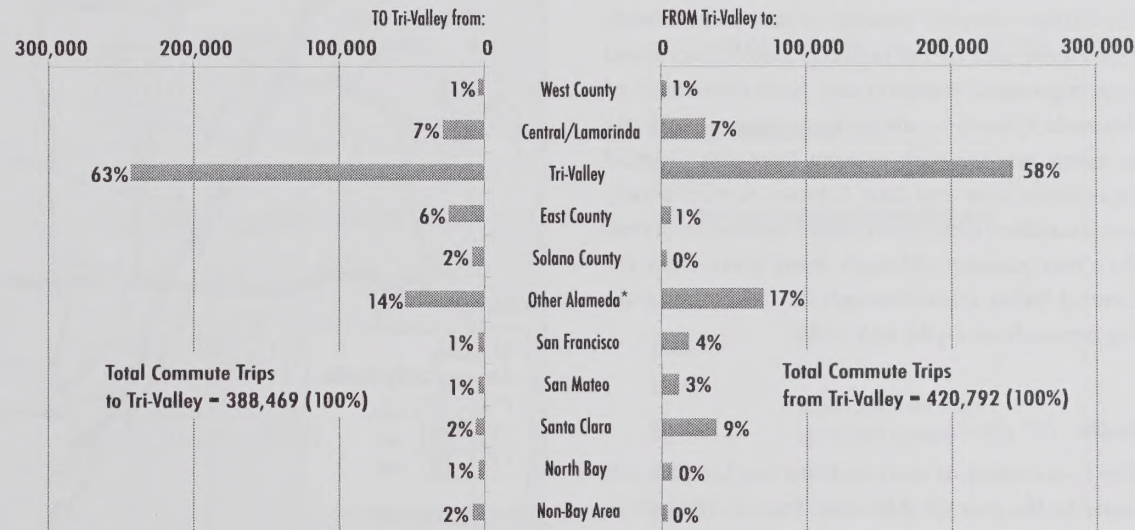
Households

With ABAG forecasting 46,000 new households between 2000 and 2020, Tri-Valley is a major player in the housing picture. It will account for 40 percent of the total new housing starts in the Contra Costa-Tri-Valley area, and an increase of 53 percent over today's level. Three-quarters of this growth will occur in the Alameda jurisdictions of

Pleasanton, Livermore and Dublin. One-fifth will occur in Dougherty Valley, with the remaining five percent in Danville and San Ramon.

About 62 percent of the growth expected in housing is already approved, which would take growth out to around 2010 or 2012. The Contra Costa portion of Tri-Valley is more than 100 percent approved, which means that growth of housing in Contra Costa could continue through the year 2020, even if no further approvals were granted.

Figure 2.11 Commute Trips To and From Tri-Valley, 2020



* "Other Alameda" includes the parts of Alameda County outside of the Tri-Valley

SOURCE: Metropolitan Transportation Commission

Jobs-Housing Balance

As much as Tri-Valley is a player in providing housing, it is an even larger player in the job market. ABAG estimates that the Tri-Valley will add about 95,000 jobs between 2000 and 2020, a 60 percent increase.

The Tri-Valley has, and will continue to maintain, a good jobs-housing balance into the future. But jobs-housing balance does not all our transportation ills cure. With a mobility factor of 40 to 45 percent forecast for 2020, lots of employed residents will choose to be LOHWOTS (people who Live Over Here, and Work Over There).

A fairly large share of the trips to jobs in the Tri-Valley — over 60 percent — start there as well. (See Figure 2.11 on the previous page.) The second largest group of workers come from other parts of Alameda County — about 14 percent — with six to seven percent each coming from the Central/Lamorinda area and East County. A surprisingly small number come from outside the Bay Area (less than two percent) although many more from the Central Valley travel through the Tri-Valley, placing demands on I-580 and I-680.

Traffic

The in-commute of workers from San Joaquin will cause traffic over the Altamont Pass to continue to grow. While forecast traffic increases on the freeways are in the 50 percent range, no significant capacity enhancements are planned. Auxiliary lane

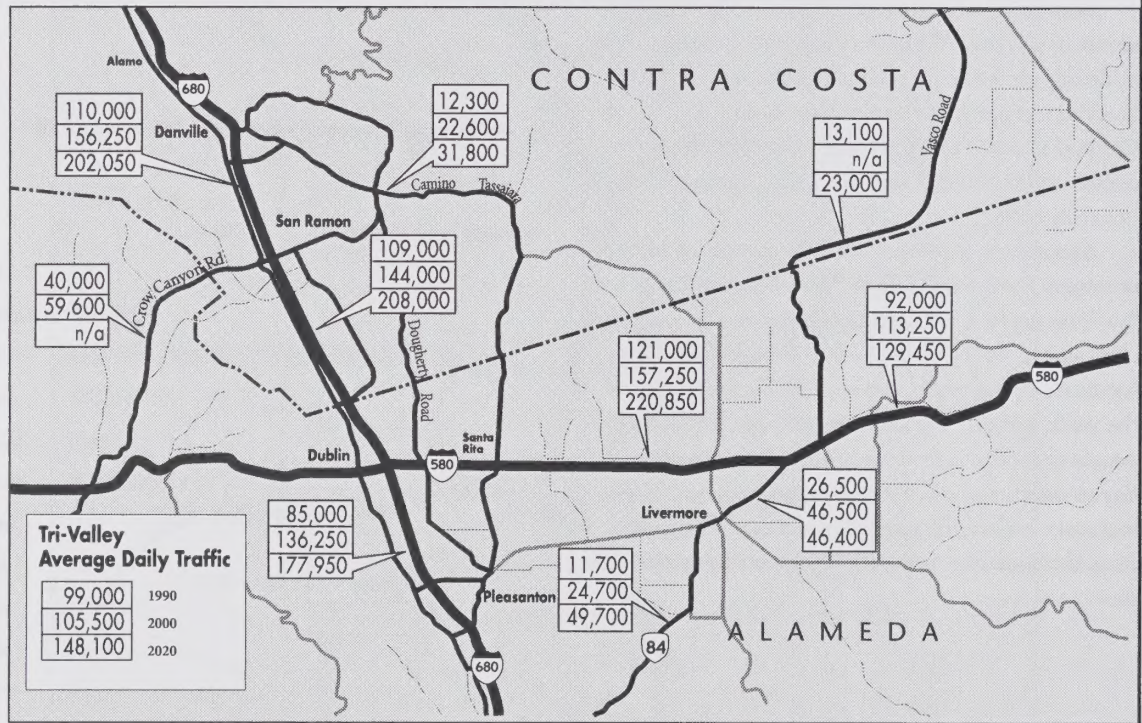
projects on I-680 and I-580 will improve operations. The arterials will experience much more dramatic traffic growth.

Congestion is expected to build over time, resulting in slower speeds, a longer duration of congestion and greater demand for alternative means of travel.

The extent of the peak period is expected to spread, from two hours today to four hours in the future.

Travel time on I-680 from Solano County to I-580 will get worse, increasing 35 percent by 2015. Speeds on I-580, which are already low (20 MPH), are forecast to worsen. The duration of congestion

Figure 2.12 Tri-Valley Average Daily Traffic



Source: Tri-Valley Model, December 1996 Update, with Alameda and Contra Costa countywide demographic totals adjusted to Projections '98, county-to-county trip tables conformed to MTC 1998 RTP model runs; gateway constraints "on."

is also expected to increase, from two to four hours over the next ten years.

EAST COUNTY

Households

Current ABAG projections forecast that East County will add 42,000 households by 2020. This is a 56 percent increase over the current base. About 17,330 units, or 41 percent, already have approvals, so at the projected rate, growth could continue out to the year 2008.

Jobs-Housing Balance

Adding 42,000 households translates into 62,800 new employed residents. ABAG is also forecasting a robust job growth for East County — 40,000 new jobs, or roughly one new job for each new house. Since there are roughly one and a half workers for every new house in East County, the story line is this: each year, 3,000 new employed residents will come to live in East County, but only 2,000 new jobs will be created.

As a result, 1,000 more people each year will have to commute out of East County to find work. This broadening gap is illustrated by the following numbers: in 1990, 44,000 workers had to out-commute; in 2000, it's expected to be 54,000; by 2020, the forecast suggests that there will be 77,000 out-commuters.

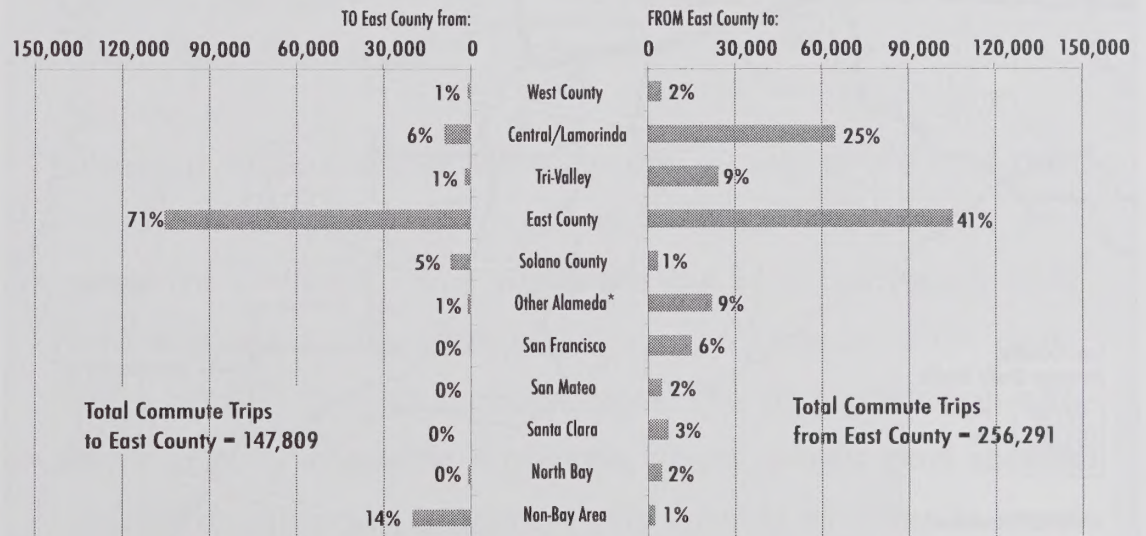
In addition to the 77,000 workers that East

County will export to Central County, the Tri-Valley, and beyond, there is the mobility factor here as well. Not every East County job will be filled by an East County resident. Some will be filled by people who reverse commute from homes in Central County, and also, some workers may come over the Antioch Bridge or from the Central Valley.

For a number of reasons, the mobility factor in East County is low. About 50 percent of East County's employed residents must commute to other subareas to find work. Only another five to ten percent of the workforce voluntarily out-commutes

even though they could theoretically find a job in East County. That incremental percentage difference, between the surplus of employed residents in East County and the total percentage of employed residents who out-commute, makes for a mobility factor that is starkly lower than for other subareas. Two considerations are at the root of this finding: a better economic fit in East County between workers and salaries; and the significant and rising congestion on Highway 4 and Vasco Road, discouraging commuters from leaving East County during peak commute hours.

Figure 2.13 Commute Trips To and From East County, 2020



* "Other Alameda" includes the parts of Alameda County outside of the Tri-Valley

SOURCE: Metropolitan Transportation Commission

Traffic

In East County, traffic increases will far exceed capacity increases, and capacity increases will occur in the latter phases of the planning period. As traffic levels increase over time, so will peak-hour delays. Eventually, commuters will change their travel

habits by commuting either before or after the “peak hour” to avoid these delays. The shift of commute times, however, also expands the period of peak congestion. This is the phenomenon known as “peak spreading.” Many commuters, faced with increasing peak-hour delays and peak spreading, will shift to alternative travel modes, whether rail

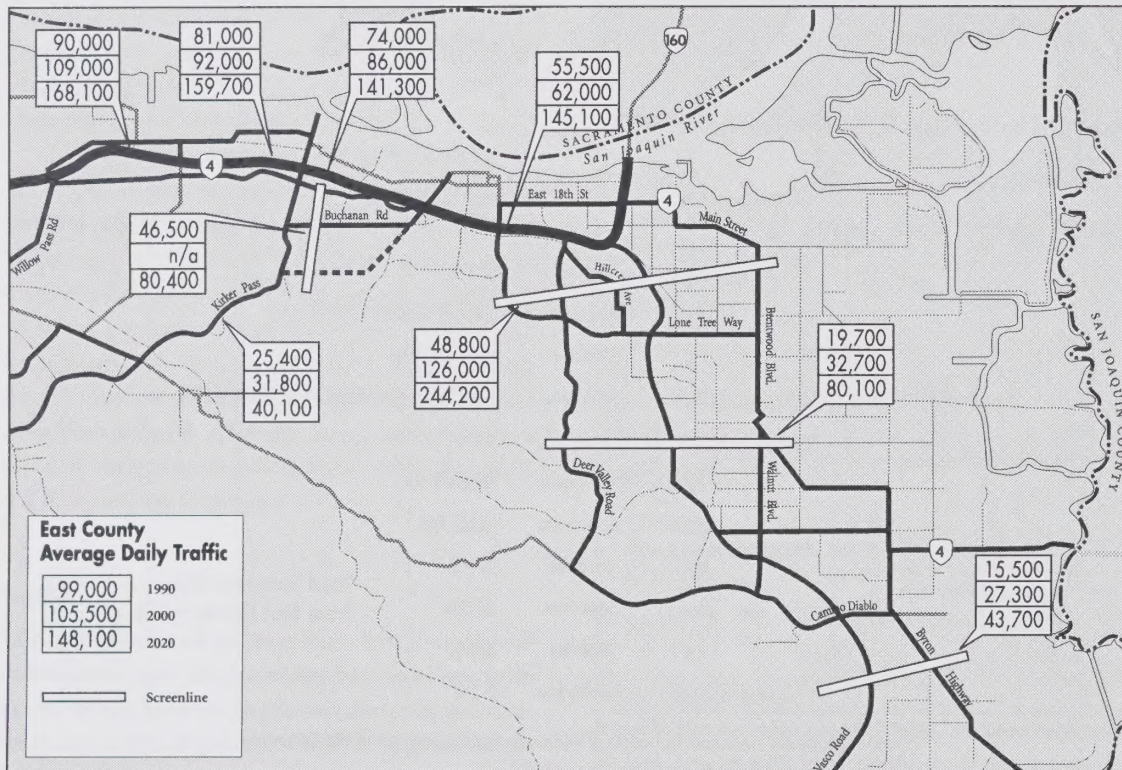
or express bus.

Today, on Vasco Road and State Route 4, the peak has spread to exceed one hour and 45 minutes (1990 data). Eventually, the duration of congestion is expected to span over three hours.

By 2010, when SR 4 is widened to six lanes (three each way), the new lanes may be congested not long after opening day. That’s because the new capacity will be utilized by commuters, initially compressing the peak period. Traffic on adjacent surface streets may also return to the freeway.

Because of these shifts, roadway widenings in East County may not improve true “peak hour” operations on these facilities. But they will improve what is fast becoming the definitive measure of effectiveness for urban roadways — duration of congestion. Peak period congestion will also make alternatives, such as carpools, express buses and BART or other fixed-rail transit, more attractive, as commuters look for fast and reliable methods of travel.

Figure 2.14 East County Average Daily Traffic



Source: CCTA 1999 CMP model

Vision, Goals and Strategies

While our crystal ball can identify the difficulties that growth will bring, it is up to us to identify a new vision for the future and to complete the work to achieve it. For the Authority, that Vision is:

Strive to preserve and enhance the quality of life and promote a healthy, strong economy to benefit the people and areas of Contra Costa, sustained by 1) a balanced, safe and efficient transportation network; 2) cooperative planning; and 3) growth management. The transportation network should integrate highways, local streets and roads, public transit, and pedestrian and bicycle facilities to meet the diverse needs of Contra Costa.

Finding the Right Balance

Achieving the Vision will require the Authority to *find the right balance* among the different, and sometimes competing, needs of Contra Costa's residents and businesses, including:

- Completing and expanding the regional system of roads, transit and pathways while ensuring that the existing system is well maintained.
- Balancing the needs of through traffic with the access needs and quality of life of adjoining neighborhoods and business areas.
- Recognizing the differing needs and situations of Contra Costa's subareas while developing a comprehensive approach to transportation systems.
- Recognizing that new capacity will not in the long run eliminate congestion, adding capacity for automobiles where beneficial while supporting and encouraging the use of transit, carpools, bicycles and walking.

All of these needs are important, and the goals and actions contained in the 2000 Update are designed to meet them. Finding the right balance among these needs, however, will require perseverance, cooperation among the jurisdictions of Contra Costa and the support of residents and the business community.

Principles and Assumptions

The following principles and assumptions provide the framework for the goals for the 2000 Update and the strategies for achieving them:

1. The Bay Area will continue to add more jobs and households. Accordingly, well-considered steps must be taken to accommodate and influence the amount, location and timing of Contra Costa's share of that growth.
2. Projects and programs must be affordable and realistic, provide travel options, and be cost-effective in improving mobility and safety to achieve the greatest combined benefit for the traveling public.
3. Decisions regarding how to direct transportation investments, manage the impacts of growth, and determine appropriate mitigation measures for new development should be made:
 - a. Through a cooperative transportation planning process in the context of a countywide growth management program;
 - b. Taking into account the priorities of local residents and businesses;
 - c. Recognizing that local governments are responsible for land-use decisions; and
 - d. In cooperation with agencies both within and outside of Contra Costa.
4. Achieving this vision will involve an ongoing effort to balance the sometimes competing ob-

jectives of sustaining a strong, viable economy with preservation and enhancement of the environment.

5. Public input is a critical element for the success of the transportation and growth management program.

Goals and Strategies for the 2000 Update

To direct the actions of the Plan, the Authority established the following goals:

1. Alleviate congestion on highways and arterial roads,
2. Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment,
3. Expand safe, convenient and affordable alternatives to the single-occupant vehicle, and
4. Maintain the transportation system.

The Authority will rely on a number of strategies to achieve these goals. The strategies, and the goals they support, are summarized in Table 1 on the following page. In addition, these strategies are discussed in greater detail in Chapter 4 – The Transportation System and Chapter 5 – Growth Management.

Table 3.1 Goals and Strategies

1. Alleviate congestion on highways and arterial roads

- 1.1 Increase the operational capacity of the existing highway and arterial roads systems through capital and operating enhancements
- 1.2 Define and close gaps in the existing highway and arterial system
- 1.3 Consistent with a countywide plan to influence the location and nature of anticipated growth, expand the highway and arterial systems

2. Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment

- 2.1 Require cooperative transportation and land use planning among Contra Costa County, cities, towns, and transportation agencies
- 2.2 Work to maintain and expand partnerships to achieve the Authority's goals
- 2.3 Participate in a regional cooperative land use planning process with agencies both within and outside of Contra Costa.
- 2.4 Support land use patterns within Contra Costa that make more efficient use of the transportation system, consistent with the General Plans of local jurisdictions

- 2.5 Require local jurisdictions to (i) establish standards for necessary public capital improvements, (ii) have new growth pay its fair share of the cost of such improvements, and (iii) link land use decisions to the level of local arterial system capacity that can reasonably be provided

- 2.6 Link transportation investments to (i) support of an urban limit line jointly endorsed by the County, cities and towns, once it is established, (ii) new developments which enhance transportation efficiency and economic vitality, and (iii) infill and redevelopment in existing urban and brownfields areas

- 2.7 Respect community character and the environment when considering proposed new transportation capital projects

3. Expand safe, convenient and affordable alternatives to the single-occupant automobile

- 3.1 Help fund the expansion of existing transit services, and maintenance of existing operations, including BART, bus transit, school buses, and paratransit
- 3.2 Link transit investments to increased coordination and integration of public transit services, or improved connections between travel modes
- 3.3 Require local jurisdictions to incorporate policies and standards that support transit, bicycle and pedestrian

access in new developments

- 3.4 Support transit-oriented and pedestrian-friendly developments
- 3.5 Invest in trails, walkways, and pedestrian-oriented improvements
- 3.6 Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking
- 3.7 Support the expansion of a coordinated system of transit and paratransit service to address the mobility needs of low-income, elderly, young and disabled travelers

4. Maintain the transportation system

- 4.1 Advocate for stable sources of funds for transit operations
- 4.2 Require programs for effective preventive maintenance and rehabilitation of the transportation system
- 4.2 Provide funding to reduce the backlog of rehabilitation and maintenance needs
- 4.4 Once the backlog has been addressed, promote stable funding and preventative maintenance programs that will maintain the long-term health of the system

4 The Transportation System

The transportation system of Contra Costa and the Bay Area is made up of many parts: streets and highways, rail and bus transit, ferries and trucks, and bicycle and pedestrian facilities. Ensuring that each of these parts of the transportation system functions optimally, and operating and maintaining the system as a whole, raises significant issues and challenges. This chapter outlines the Authority's strategies for addressing these issues.

Roadways

The streets, roads and highways of Contra Costa and the Bay Area clearly dominate the transportation system, providing the primary paths for movement, whether by car, bus, bicycle or foot, as well as one of the major public space in urban areas. The majority of trips people make each day use this roadway system.

As the region grows, the demands on the roadway system will also grow.

THE ROLE OF ROADWAYS IN THE TRANSPORTATION SYSTEM

Roadways play two primary roles: providing access to adjoining properties and allowing travel from place to place. Each type of roadway can be categorized by the relative emphasis it places on these two roles. At one end of the spectrum are freeways, which emphasize through movement and allow no access to adjoining properties. At the other end are local streets, which emphasize access to adjoining properties and are designed to serve little through traffic. Between these two extremes lie expressways and arterial and collector streets. Each of these types of streets balances the needs of access and movement, emphasizing these two poles in different combinations.

Besides balancing access and through movement, streets and roads must accommodate many kinds of vehicles. While freeways carry (except in

very limited instances) only motor vehicles, local streets must also provide space for pedestrians and bicyclists. Different streets must have different designs to accommodate different demands. An arterial street in a downtown area, for example, must accommodate not only through traffic destined for or passing through the downtown; it must also include space for pedestrians and often parking, and accommodate vehicle turns into adjoining businesses.

Streets and roadways play another role, one not directly related to transportation. In many if not most urban and suburban communities, roads represent the largest public space. The design of these roads can have a great effect both on the shape of a city and on the quality of public spaces within it.

ISSUES

As Contra Costa and the Bay Area have grown so have the demands placed on the roadway system. As fast as population has grown, the miles that vehicles are driven each year have grown faster. The capacity of the roadway system has not expanded at the same pace, however, resulting in more congestion and unpredictable travel times. The “rush hour” is no longer just an hour, and now stretches to several hours each morning and afternoon. And as congestion increases, so do accidents, which contribute even more to congestion on the system.

Our ability to expand the roadway system further is limited. Funding for transportation improvements has not kept pace with increased demands

on the system. At the same time, the costs of building or expanding roadways, transit systems and other facilities have increased, further eroding what available funding can buy.

Besides a lack of funding, however, building new facilities and expanding existing ones face increased opposition. Adjoining communities are concerned that increased traffic volumes will bring increased noise, air quality and safety impacts, while



environmentalists are concerned with the potential growth of sprawl and loss of open space and farmland that increased capacity may generate.

As such, we are embarking on an era where capacity expansion is only “on the margin”, with relatively minor increases to an already extensive system. This is not to say that we cannot or will not add capacity to our highway and transit system; real improvements can still be made and bottlenecks eliminated. Still, given continued limits on funding and local and regional concerns about the impacts of new or expanded facilities, our emphasis will likely shift instead to improvements in how we operate, manage and maintain the facilities that we now have.

One way to balance the demands for increased capacity with the difficulties of building capacity is improve roadway operations. By improving traffic flow, these operational improvements can increase the effective capacity of the roadway without expensive and often controversial projects. These operational improvements can range from interconnecting traffic signals and providing bus preemption, to real-time vehicle location and traveler information. Perhaps in the not too distant future we will be implementing more “futuristic” improvements such as crash avoidance systems and computer-controlled vehicles.

STRATEGIES

To address these issues, the Authority has identified the following strategies for addressing issues facing the roadway system.

■ Increase the operational capacity of the existing highway and arterial roads systems through capital and operating enhancements

Making traffic movement more efficient is a way, often a more cost-effective way, to increase the capacity of roadways without adding new facilities or expanding existing ones. These operational strategies can be applied to individual roads, linked roadways or transit lines, or broader systems. These strategies are described in greater detail in the section on managing the system later in this chapter.

Together, these actions can increase the efficiency of movement on arterial streets and highways and improve access to jobs, shopping, schools and recreation. These arterial management plans can also support neighborhood traffic management and other strategies for collector and minor roads that encourage through traffic to use the designated arterial system rather than neighborhood streets.

■ Define and close gaps in the existing highway and arterial system

While Contra Costa has an extensive system of highways and streets, major gaps remain. The closing of these gaps will represent a real step towards achieving the goals

outlined in the Plan and supporting mobility in Contra Costa. This strategy includes defining these systems, where issues remain, and then filling in the remaining gaps.

The Plan recommends a number of such projects on the roadway system, such as the completion of the State Route 4 West freeway, the system continuity project at the Caldecott Tunnel, and the widening of sr 4 between I-680 and SR 242.

■ Consistent with a countywide plan to influence the location and nature of anticipated growth, expand the highway and arterial systems

Completing gaps in the system and improving operational efficiency may not be sufficient to deal with the increased demand on our transportation facilities. Some expansion of the highway and arterial system will be necessary. Such expansion projects could run from localized intersection improvements such as new turn or through lanes to more major new roadways or facilities that would serve new development or carry people or vehicles that might otherwise create traffic impacts on neighborhoods or shopping districts.

These expansions should, however, be made carefully. Funding is limited which means we must focus our resources where they will have the greatest impact. In addition, they can affect locational decisions in ways that can either support or work against local and regional goals. The Authority proposes to look at transportation improvement programs to ensure that these programs support an efficient land use pattern and prevent sprawl.

(See Chapter 5 – Growth Management – for a further discussion of these issues and supporting strategies.)

Transit, including Buses, Rail, Paratransit and Ferries

Transit, including both those services sharing roadways with other vehicles and those with their own rights-of-way, can provide several overall benefits:

- By carrying more people per vehicle, buses can make more efficient use of the capacity of existing roadways. Express buses in particular can take advantage of HOV lanes on the region's freeways.
- Because it has its own right-of-way, rail transit (as well as ferries) is not affected by increases in congestion or incidents on roadways, as buses are.
- Where enough people shift to transit, it can improve air quality and safety and reduce noise and parking demand by increasing the number of people riding in each vehicle.

Transit, both regularly scheduled and dial-a-ride services, can help meet the mobility needs of the many travelers who cannot or do not drive.

A variety of transit operators serve Contra Costa. The **Bay Area Rapid Transit District (BART)** provides rapid rail service on three lines that serve Contra Costa. The **Capitol Corridor** and **Amtrak** provide service along the western and northern edges of Contra Costa with stations at Richmond, Martinez and Antioch. (An additional Capitol Corridor station is planned at Hercules.)

Four bus operators provide service in Contra Costa. **AC Transit** serves most of the urban areas west of the East Bay Hills, providing both local intercity service and Transbay service to San Francisco's Transbay Terminal. The **Western Contra Costa Transit Authority (WestCAT)** serves the northern parts of West County and provides express bus service to the El Cerrito del Norte station and service to Martinez along SR 4. **County Connection (Central Contra Costa Transit Authority)** provides local and express bus service, including direct commute bus service between Central County and Bishop Ranch business park in San Ramon, with service to the ACE commuter train in the Tri-Valley. County Connection also provides service from the Hillcrest Park-and-Ride lot in Antioch to the Walnut Creek BART Station. **Tri Delta Transit (East Contra Costa Transit Authority)** provides bus service in East County and includes express bus service to the new Pittsburg-Bay Point BART stations; it has also begun new service to Livermore along Vasco Road.

Bus operators from outside Contra Costa County — including **Benicia Transit**, **Vallejo Transit**, **Solano Bus** and **Livermore-Amador Valley Transit Authority (LAVTA)** — have focused their inter-county service on BART stations.

Bus service to BART is becoming increasingly important given the difficulty in adding parking at some BART stations. In addition, transit operators are providing new subscription and subsidized bus service directly to major activity centers. With subscription service, riders purchase an annual or monthly pass

to ride a specific bus route. Both the schedule and route of the bus is fixed, most often from a park-and-ride lot to a major job center. With subsidized service, a major employer or job center subsidizes service on a specific route so that employees can ride free or at low cost to and from work.

In addition to these rail, bus and ferry services, providers within Contra Costa provide various paratransit services. Paratransit, which includes dial-a-ride and similar services, is an essential part of the transportation system, meeting the mobility needs of the young, old, and disabled that are not as easily met by other transit services. The demand for these services will grow as the population ages.

New ferry service has recently begun between the Richmond Marina and San Francisco. In addition, commuters in West County can also use the Larkspur or Vallejo to San Francisco service, although both require traveling to adjoining counties which makes them less convenient. In addition, ferry service to San Francisco from Martinez and Benicia (as well as from Berkeley) is included in MTC's 1999 *Regional Ferry Plan Update*. The Bay Area Council has also proposed an extensive system of ferry service for commuters including a new route from Rodeo, Antioch and Pittsburg to San Francisco.

ISSUES

Transit, especially bus transit, serves two general markets. The first market consists of commuters who have access to a car, but *choose* to use transit

instead of their car. These so-called *choice riders* favor taking the bus or the train instead of the car to avoid traffic and parking hassles, even when slower than taking their car. They would rather use their commute time to read and relax, although if they absolutely had to drive, a personal auto would be available to them. The choice-rider market generally requires “rush hour” service with trunk-line routing along regional facilities. To attract the choice rider, transit operators must provide fast service, few stops, and direct routing to well-defined destinations such as job centers in existing downtowns or office parks. Supporting this market serves both the choice rider and the need for managing and alleviating congestion.

The second market consists of riders that use transit for all or most of their personal mobility, whether for commuting or travel to other destinations. Most often (though not always) these riders have no effective alternative. A so-called *transit-dependent* household may not be able to afford a car, or decides not to own one. Households with only one car shared by two working adults who commute in opposite directions are transit dependent. The very young, the elderly, and others who can’t drive are also counted within this market. The service required to be useful here, is generally more local in nature, has more frequent stops, and might involve more circuitous routing.

The service needed to attract either market can overlap considerably. Choice riders may need local service to reach an express bus stop or a train station; and transit-dependent riders may use peak-pe-

riod trunk-line service to reach their place of work. The distinction blurs as transit operators attempt to fully meet the requirements of both markets.

Limited funding for transit operations, however, means that transit operators must constantly balance these competing needs to provide high-quality service to both the choice and transit-dependent markets and provide for both congestion relief and personal mobility.

Generally, travelers will choose transit more often and for more types of trips if it is faster, cheaper, more convenient, and pleasant and reliable.

- **Faster** People choose to use a car, for most trips, because it gets them from one place to another in less time than transit. Transit can compete with the car, however, when it provides significant time savings. For example, during peak hours, when regional highways are congested, BART and express buses actually offers time savings, despite the additional time required for reaching the station, waiting for trains, and transferring. Greater use of HOV lanes or fixed rail systems can make transit faster than the single-occupant vehicle, which is subject to congestion in mixed-flow lanes.
- **Cheaper** While an automobile trip (when the cost of the car, insurance, maintenance, gas, parking, and tolls is included) can cost more than a trip on transit, most costs are paid upfront, and drivers usually consider only the marginal cost of each trip. By comparison, tran-

sit requires a frequent, typically daily, out-of-pocket payment, making the per-trip cost seem greater. People may opt for using an automobile simply to avoid this higher perceived cost. Transit becomes more attractive as the marginal cost of an automobile trip increases — say from increased parking costs or higher fuel prices — or the cost of a transit ride decreases. Limiting the amount of parking available or increasing its cost at destinations can make transit more attractive relative to the private automobile.

- **More Convenient** The convenience of the private automobile is hard to match. Drivers can easily travel to a number of locations when they want, park for free, and carry large packages. Most transit, however, travels on fixed routes at fixed times, with limited space for carrying packages. Transit can be made more convenient in several ways. Increasing the frequency of buses or trains can reduce the time riders have to wait. Improving the connections between transit providers or between transit and other travel modes can also make it more attractive. Supporting land use changes, such as increased densities or a greater mix of uses at job or shopping districts, can reduce the need for potential riders to drive and thus make transit more appealing for potential users. In addition, improved transfers including the use of pre-paid tickets can make transit more convenient.
- **More Pleasant, Reliable and Attractive** Many of the actions to make transit faster and more

convenient can also make it more pleasant, reliable, safe and attractive. Improved frequency, better connections and greater use of HOV lanes by express buses are all examples of this. In addition, improved bicycle and pedestrian access can make the door-to-door trip more pleasant. Improved and well-maintained stations, bus stations and transfer facilities can also make transit more attractive. Cleaner, more comfortable buses and trains, with telecommunications hook-ups for passengers on longer trips, can add to transit's attractiveness. Improved technologies such as automatic vehicle locator systems for buses, signal preemption and HOV bypass lanes where ramp metering has been put in place, and improved switching and train control systems, help improve reliability. Finally, well-designed and extensive marketing and advertising campaigns to promote transit as a convenient option helps to raise the commuter's perception of transit's attractiveness. Rail transit, which operates on a separate right-of-way, can provide reliable service unaffected by congestion on adjoining roadways. Commuter rail service that shares tracks with freight service may, however, experience conflicts that limit its reliability or its frequency.

STRATEGIES

The Authority has identified the following strategies for encouraging the greater use of transit and improving its role in the transportation system.

■ **Help fund the expansion of existing transit services, and maintenance of existing operations, including bus transit, BART, other rail, school buses, paratransit and ferries**

Measure C currently provides support for transit operations, including both transit and paratransit services. The Authority has provided additional funds for capital improvements such as the extension of BART to Pittsburg/Bay Point, additional BART parking and new HOV lanes on I-680.

To ensure adequate funding, the Authority could expand the amount set aside for transit operations in a possible extension of Measure c, which sunsets in 2009. The Authority has also supported changes in legislation that would help establish more reliable funding from State and federal sources.

■ **Link transit investments to increased coordination and integration of public transit services, or improved connections between travel modes**

The Authority works with transit operators to improve the coordination and integration of transit services. As part of these cooperative discussions, the Authority and operators identify projects that support better coordination and integration of service. The forthcoming study of express bus service in Contra Costa sponsored and funded in part by the Authority is an example of this. The Authority will use the recommendations of this study to identify improvements that will increase coordination between bus operators and connections between travel modes.

Options Where the Authority believes that transit operators could reasonably improve the integration of

their service, it might consider tying continued funding to the implementation of these improvements. Alternatively, it could establish performance standards for service coordination and integration as part of the extension of Measure C.

■ **Require local jurisdictions to incorporate policies and standards that support transit, bicycle and pedestrian access in new developments**

Various changes in how we develop our communities — some minor and other significant — can encourage greater use of transit and other alternatives to the single-occupant vehicle. These changes could include designing streets to facilitate bus service; focusing land uses to bring more people closer to transit lines; providing direct pathways for transit riders from home to transit and from transit to work places; limiting the amount and location of parking; and generally increasing densities near transit stations and job centers.

These strategies are discussed in greater detail in the Growth Management chapter.

■ **Support transit-oriented and pedestrian-friendly developments**

In addition to requiring general policies and standards that support transit, bicycle and pedestrian access, the Authority's support for specific developments that incorporate such standards could help make such developments more feasible.

Such strategies are discussed in greater detail in the Growth Management chapter.

■ **Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking**

The Authority promotes greater transit use in several ways. Measure c provides funds for expanded transit services. It also requires each jurisdiction to adopt and implement a transportation demand management (TDM) ordinance that encourages greater transit use. The Authority is funding and managing a study of potential improvements in express bus service within Contra Costa; this study will evaluate service in the different corridors in Contra Costa and propose improvements needed to better meet the needs of existing commuters and to attract new riders.

Options As noted above, the Authority could expand funding for transit operations as part of the extension of Measure c which would make it more convenient and attractive. Strategies requiring transit-friendly development standards and supporting such development would also promote greater use of transit.

■ **Advocate for stable sources of funds for transit operations**

(See the discussion of this strategy below in the section on maintaining the transportation system.)

HOV Facilities, Including Park-and-Ride Facilities

ROLE OF HOV LANES IN THE TRANSPORTATION NETWORK

As with transit, carpools and vanpools can decrease the number of cars on the road by increasing the average number of people per vehicle. While transit can be more efficient for commutes to larger job centers and require less organization by drivers and riders, carpools can provide a more efficient alternative to transit when demands are light and job locations dispersed.

Carpools come in two general types: formally organized and casual. Organized carpools and vanpools take a regular set of riders from home, a park-and-ride lot or other location to work in the morning, and then back again in the afternoon. The costs of operating the car or van are split among the riders. With casual carpools, a driver picks up potential riders waiting at an informally designated location, usually at a park-and-ride lot, bus stop or transit station, and takes advantage of the time and cost savings that HOV lanes and free tolls confer. Riders generally ride transit back to where they started.

Carpools, like transit, are most attractive when faster or cheaper than the single-occupant vehicle. The greatest potential for carpooling would thus be in the I-80 corridor, especially for Transbay trips, where carpoolers would get the benefit of both HOV

lanes and the absence of tolls. Carpools would also be attractive on I-680, especially for those trips that cross over the Benicia-Martinez Bridge and travel south using the HOV lanes in the San Ramon Valley. Some commuters into San Francisco use casual carpooling along SR 24 although they must still endure the backup at the Caldecott Tunnel. The opening of HOV lanes on SR 4 between SR 242 and Railroad Avenue will also encourage carpoolers.

Carpooling may also reduce air pollution by reducing the number of vehicles on the road and increasing speeds, resulting in better engine efficiency. The extent of this benefit, however, depends on how people get to where the carpool starts. If every carpool rider drives a shorter distance to a park-and-ride lot or other pickup spot, then their vehicle will end up adding emissions from the most polluting part of the drive, when their vehicle's engine is cold.

WHAT PREVENTS GREATER USE?

As with transit, carpooling can be more attractive when it is faster, cheaper, more convenient or more reliable than driving alone. Generally, carpools are as fast as the single-occupant vehicle (unless HOV lanes are available) and can be cheaper. Drivers, however, often feel that with so much money already invested in one's car, the additional cost of transit fares or shared carpool costs may make those alternatives less attractive.

The biggest obstacle to greater use of carpools and vanpools is convenience. Using a carpool, like using transit, leaves the rider without a vehicle during

The Contra Costa Commute Alternative Network

Since the passage of Measure C in 1988, the Authority also funds various subregional TDM programs using both Measure C and Transportation Fund for Clean Air funds.

In late 1999, the three subregional TDM programs, which had already been working together to provide countywide services, developed the Contra Costa Commute Alternative Network, or Contra Costa CAN. Although projects are still developed and implemented by the subregional program staff, the new identity allows a more unified approach to marketing their already countywide efforts. Contra Costa CAN and the subregional programs carry out a number of TDM efforts. Some of the many programs include:

- The Countywide Carpool Program encourages the formation of new carpools by providing ride matching services and a two-month subsidy for gas.
- The Countywide Vanpool Program promotes the creation of new vanpools by providing a \$1,000

bonus to vanpool drivers or coordinators who start a new vanpool and keep it on the road for 12 consecutive months with at least six riders.

- The Countywide Transit Incentive Program promotes transit use by giving out transit passes or tickets for one month of rides.
- The Countywide Guaranteed Ride Home Program offers either taxi or rental car vouchers to anyone who works in Contra Costa and uses a commute alternative.
- The programs support Employer-Based Trip Reduction Efforts by, for example, supporting the "Spare the Air" program and informing workers of available commute alternatives.
- The Contra Costa Clean Fuel Vehicle Project which has supported purchase of vehicles and construction of fueling stations.
- The TR@KS Transportation Information Kiosk Project which provides Internet-based transit information.

the day. Using carpools can make errands or emergencies harder to deal with. There are several possible ways of overcoming these obstacles, including:

- Giving carpools a travel time advantage through HOV lanes and HOV bypass lanes where ramp metering is in place. The more com-

plete the system of HOV lanes, the greater the potential travel time savings.

- Giving carpools a cost advantage by eliminating tolls and reducing parking costs (or, alternatively, increased or instituting parking costs at work sites).

- Ensuring that carpool users won't need a car during the day by providing a broad mix of facilities and services within walking distance of work or accessible by shuttle bus, or by instituting "guaranteed-ride home" programs.
- Improving connections to hov facilities by adding or expanding park-and-ride lots and requiring carpool parking in the most advantageous places.

The Authority supports such strategies in various ways. The Measure C Growth Management Program requires local jurisdictions to adopt a TDM ordinance. The Authority also funds transportation demand management programs in Contra Costa, especially the Contra Costa Commute Alternative Network. (See the description of their programs in the adjoining sidebar.)

STRATEGIES

The Authority has identified the following strategies for implementing an expanded HOV system within Contra Costa and the region.

■ Define and close gaps in the existing highway and arterial system

In addition to the gaps and bottlenecks in the roadway system generally, the Authority supports the expansion of the HOV system and supporting park-and-ride facilities. Figure 4.1 identifies existing, programmed, and planned HOV lanes and potential additional links and park-and-ride facilities as well as major transit trunk lines.

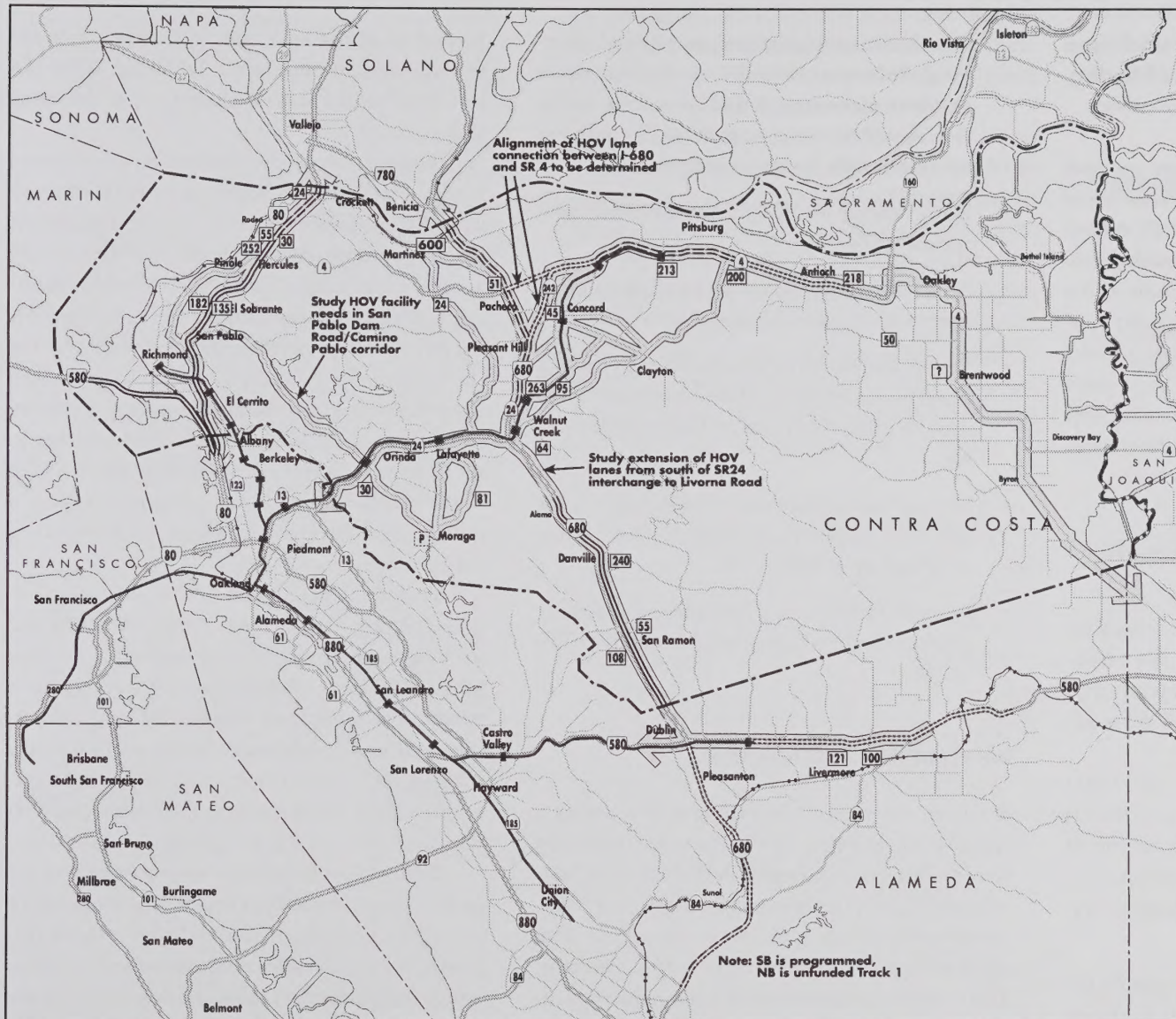


Figure 4.1 High-Occupancy Vehicle Lanes, Transit Trunklines and Park-and-Ride Lots

- Existing HOV lanes
- Programmed HOV lanes
- Planned HOV lanes
- Existing Park-and-Ride Lot (number of parking spaces)
- Proposed Park-and-Ride Lot
- Transit Trunkline
- BART
- Capitol Corridor/Amtrak
- Altamont Commuter Express

■ **Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking**

As described above, a number of strategies are available for encouraging greater and more efficient use of HOV and park-and-ride facilities. These include carpool and parking subsidy programs, new or expanded park-and-ride lots, guaranteed ride home programs, and a greater mix of facilities and services at work sites to reduce the need to drive alone. Currently, many park-and-ride lots, especially those that serve both transit riders and car-poolers, are full early during the morning commute. This leads to competition for limited parking spaces between these two groups.

Bicycle and Pedestrian Facilities

While many, if not most, people bicycle or walk for recreation, bicycling and walking can play an important role in transportation, especially where trips are short and safe and attractive paths are available.

While only a small share of the number of trips made each day, bicycling and walking can provide several benefits, and can play a significant role in supporting other alternative travel modes and economic development objectives. For example, bicycling and walking can:

- Support transit where pedestrian-friendly environments make it is easier to get to transit

from home or from transit to work or shopping. Pedestrian-friendly work sites allow people to make errands and other trips during the day without using a car, thus allowing them use transit only for their commute.

- Reduce energy use by shifting trips from single-occupant vehicles.
- Save money by reducing the cost of owning and operating a personal automobile.
- Reduce demand on public facilities by shifting travel from motorized vehicles and reducing the need for expanding roads and automobile parking.
- Improve environmental quality by reducing air and noise pollution and supporting neighborhood quality of life.
- Promote health by increasing physical activity and reducing the dangers of a variety of illnesses.

WHAT PREVENTS GREATER USE?

Relatively few trips are by bicycle or foot during a typical week. In 1990, only 10.5 percent of all trips were made by bicycle or foot in the Bay Area. MTC estimates that, while the number of bicycle or walking trips will increase 24 percent by 2020, their share of all weekday trips will drop to only 9.4 percent. These shares are even lower for commute trips. In 1990, bicyclists or pedestrians made less than two

percent of all commute trips in Contra Costa and the Alameda portions of the Tri-Valley. What factors stand in the way of greater use of bicycling and walking?

Distance As the two “human-powered” travel modes, bicyclists and pedestrians are more sensitive to the distance between destinations. Studies suggest that pedestrians are generally willing to walk about a quarter mile. They will walk further sometimes, such as when walking to work. Statistics for the Bay Area support this. MTC found that half of the people who walked to work in 1990 walked 0.6 miles or less; the average for all was 1.5 miles. Statistics for bicyclists, who can travel further in the same time, were correspondingly greater. Half of the people biking to work in 1990 traveled 1.9 miles or less; the average distance for all bicyclists was 3.7 miles.

Strategies that reduce the distance between origins and destinations would make bicycling and walking more attractive. One method is to bring jobs and housing affordable to the workers likely to fill those jobs closer together. Mixing compatible land uses would make biking and especially walking more attractive for errands. And the creation of more direct routes to job centers could reduce the time needed to travel between those places.

Safety Conflicts with automobiles and the lack of safe routes is a key reason why more people don’t bike or walk. Several polls have found that people feel that bicycle lanes, sidewalks and streets would do the most to encourage more bicycling and walking.

Streets are not always designed to accommodate bicycles and pedestrians. Many streets, even in residential areas, lack sidewalks, and many through streets, which could provide routes for bicycle commuters, don't provide sufficient space for safe travel. Both bicyclists and pedestrians also need well-lighted pathways for safety.

Safety problems are especially acute at intersections and other crossings. Between 75 and 90 percent of all bicycle accidents result from turning or crossing movements. Even the creation of bicycle lanes, which are intended to provide a safe space on the street for cyclists, can create conflicts if not properly designed, especially at intersections with right-turn lanes for cars. In addition, the creation of separate paths can create safety conflicts between bicyclists and pedestrians.

Lack of Routes and Facilities Providing a safe, well-connected system of bicycle and pedestrian routes, as well as other bicycle facilities, can significantly increase walking and bicycling. The National Bicycling and Walking Study found that, "cities with higher levels of bicycle commuting have on average 70 percent more bikeways per roadway mile and six times more bike lanes per arterial mile." As important as the actual miles of bikeways and bike lanes available is how well connected those facilities are; gaps in the system of bicycle routes and obstacles such as tunnels and bridges can make bicycling much less attractive. In addition, while increased densities can support more walking and bicycling, they also can increase traffic, which only increases the need for adequate space for bicyclists

and pedestrians. Bicyclists also often note that improved facilities, including improved bicycle parking and showers at work, would make bicycling more attractive as a commute alternative.

Pedestrians have many of the same needs as bicyclists for safe and adequate facilities. Sidewalks are important, especially along busy roads, and the lack of clearly-marked crossings on arterial streets, poor signal timing and the presence of free-right turn lanes can make walking a much less attractive alternative, and dangerous for children and the elderly. In addition, some studies suggest that pedestrians are more sensitive to the quality of the surrounding environment, and are willing to walk further when walking through more attractive surroundings.

Land Use The density and mix of land uses can increase the attractiveness of walking and bicycling. Increased densities of housing or commercial areas can shorten distances between home or work and various destinations, while a greater mix of land uses can also put shopping closer to shoppers. The combination of compact land use and greater mixing of uses can have "synergistic" impacts on the attractiveness of walking or bicycling, especially if the land uses are compatible with each other. Having restaurants, dry cleaners, banks, and other personal services within walking distance of an office development can, for example, encourage people to walk when making lunchtime errands rather than driving. (As mentioned earlier, this also helps transit users and carpoolers to forego the use of their car during the day.) Increasing the density

of the office development and reducing the area set aside for parking, when combined with this mix of land uses, would further decrease distances and increase the likelihood that people will walk or bike.

STRATEGIES

The Authority has identified the following strategies for encouraging walking and bicycling within Contra Costa and the region.

■ Define and close gaps in the existing highway and arterial system

The Plan supports the closure of gaps in the regional bicycle system. This system of regional bicycle and pedestrian routes is focused on primarily Class I off-road facilities with important connecting Class II facilities that connect larger job, educational and other activity centers. The map in Figure 4.2 identifies both activity centers and the key regional bicycle and pedestrian facilities that link them. A more detailed set of facilities and a program for expanding the system would be developed in a countywide bicycle plan.

Significant gaps still remain along these facilities, however. The Plan proposes to focus efforts and investments to complete these facilities and to encourage the development of pedestrian facilities within the activity centers to encourage more walking and bicycling.

■ Support transit-oriented and pedestrian-friendly developments

As noted earlier, the Authority's support for specific developments that incorporate such standards could help

make such developments more feasible.

Such strategies are discussed in greater detail in the Growth Management chapter.

- **Require local jurisdictions to incorporate policies and standards that support transit, bicycle and pedestrian access in new developments**

As with transit, changes in how our communities are developed can encourage walking and bicycling. See the Growth Management chapter for a discussion of these strategies.

- **Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking**

As noted in the transit and HOV sections above, the Authority supports TDM efforts to encourage greater transit and bicycle use and walking. In addition, the support for pedestrian-friendly development and closing gaps in the regional and local bicycle and pedestrian system will further encourage their use. (See the Growth Management chapter for a discussion of development policies that support these travel modes.)

- **Invest in trails, walkways, and pedestrian-oriented improvements**

Measure C set aside a portion of the sales tax revenues for trails and other pedestrian and bicycle facilities. The Authority will consider proposing additional funds for such projects if the voters choose to extend Measure C.

The development of a countywide bicycle plan, including a map of recommended bicycle facilities and needed improvements would help focus our investments where they would have the greatest effect in making bi-

cycling and walking safe and pleasant.

In addition, revising standards for the design of roadways can ensure that adequate bicycle and pedestrian facilities are included when roads and streets are built, expanded or redesigned.

Facilities for Goods Movement

The movement of goods within and through Contra Costa and the Bay Area represents a significant portion of travel on the region's highways and roads as well as the region's economic activity. Despite the growing use of electronic communications in business and services — and in some ways, because of it — the amount of goods movement in Contra Costa and the region will continue to grow.

Goods move from producers to consumers through a variety of means, and rarely directly or by a single means. Normally, goods move through the transportation system using one, then another, transportation mode. A product might arrive by ship where it is transferred to trucks for delivery to local warehouses or businesses or to railcars for longer distance shipping. A package arriving by plane would be transferred to medium-sized trucks for delivery directly to businesses or homes. Other materials, like oil, might be delivered to refineries by ship and, after refining, sent out by pipeline.

The Bay Area's transportation system includes all of these components of the goods movement shipping. The nearby Port of Oakland is one of the main ports on the West Coast while the Port of Richmond and ports serving local refineries provide

additional capacity. The Oakland and San Francisco airports serve the increasingly important air freight sector. And several major rail lines and truck routes cross the region and Contra Costa.

Trucks are the primary carrier of goods within Contra Costa, the region and nation. While rail and trucks carry similar shares of intercity goods, trucks carry most long-haul freight where the trip is less than 500 miles in length, as well as being the primary vehicles for carrying goods within local areas. In 1992, trucks carried about 92 percent of freight movement between locations within California.

With the end of World War II and the creation of the Interstate highway system, trucking took an increasing share of the shipping market from the railroads. Despite this, the share of freight carried by railroads has stabilized at around one-third. Railroads should remain the primary long-distance carrier since it is cheaper to ship by train than by trucks when trips are longer than 500 miles. The shift to containerization has made both rail and truck shipping more efficient.

While it makes up an increasing share of traffic volumes on the state's roadways, truck travel is making up a smaller share of travel within Contra Costa. While daily truck travel increased 17 percent on Contra Costa roads between 1981 and 1996, total vehicle travel increased 64 percent during that same 26-year period, reducing the share of truck travel from eight percent to 5.6 percent. The biggest increases in truck travel occurred for smaller vehicles, both two- and three-axle, again reflecting

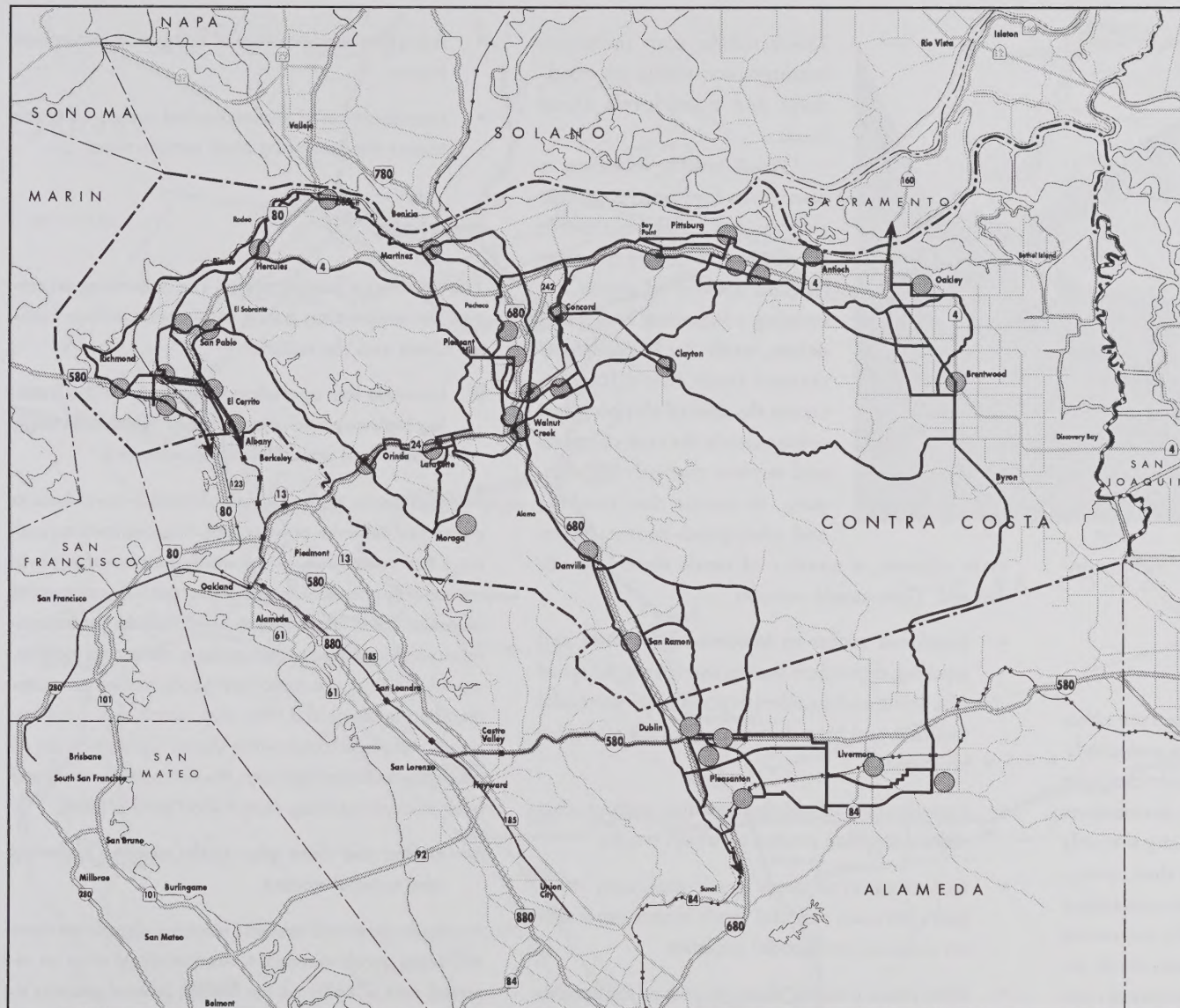


Figure 4.2 Regional Bicycle Routes

- Bicycle Route (existing and planned)
- Activity Center (job centers, colleges, downtown, transit stations & centers)
- BART
- Capitol Corridor
- Altamont Commuter Express



the increased use of delivery services and just-in-time manufacturing processes.

ISSUES

Increasing truck traffic raises two issues: the effect that more trucks have on the capacity and condition of roadways and the effects that more cars have on the ability of trucks to reach their destinations on time. Generally, trucks reduce capacity not only by taking up more space on roadways than cars — a large truck represents about 1.5 to two passenger cars, more on steep slopes — but also by increasing “friction” in adjoining lanes. In addition, truck accidents have a greater effect on non-recurrent congestion than their share of traffic would suggest.

Truck traffic also increases maintenance needs on roadways and noise levels along them.

Truck traffic, however, is essential to continued economic activity and relies on reliable travel times to ensure the most efficient delivery of goods. Increasing congestion and travel delays, while due in part to increased truck travel, can increase the cost of shipping and consequently the cost of goods and services that rely on shipping. To ensure that trucking and other goods movement remain efficient, a number of needs should be addressed. These needs include:

- Improved access to intermodal facilities and trucking-dependent uses by improving the speed of loading and transfers at ports and intermodal facilities and by reducing congestion along access roads
- Construction of weigh-in-motion stations that reduce the time needed to weigh trucks
- Construction of more grade-separated roadways between rail and truck routes especially on roads to intermodal facilities
- New truck loading zones to ensure that goods can be delivered to businesses efficiently

- Adequate maintenance of key goods movement routes
- Identification of a coordinated system of truck routes supported by local jurisdictions

STRATEGIES

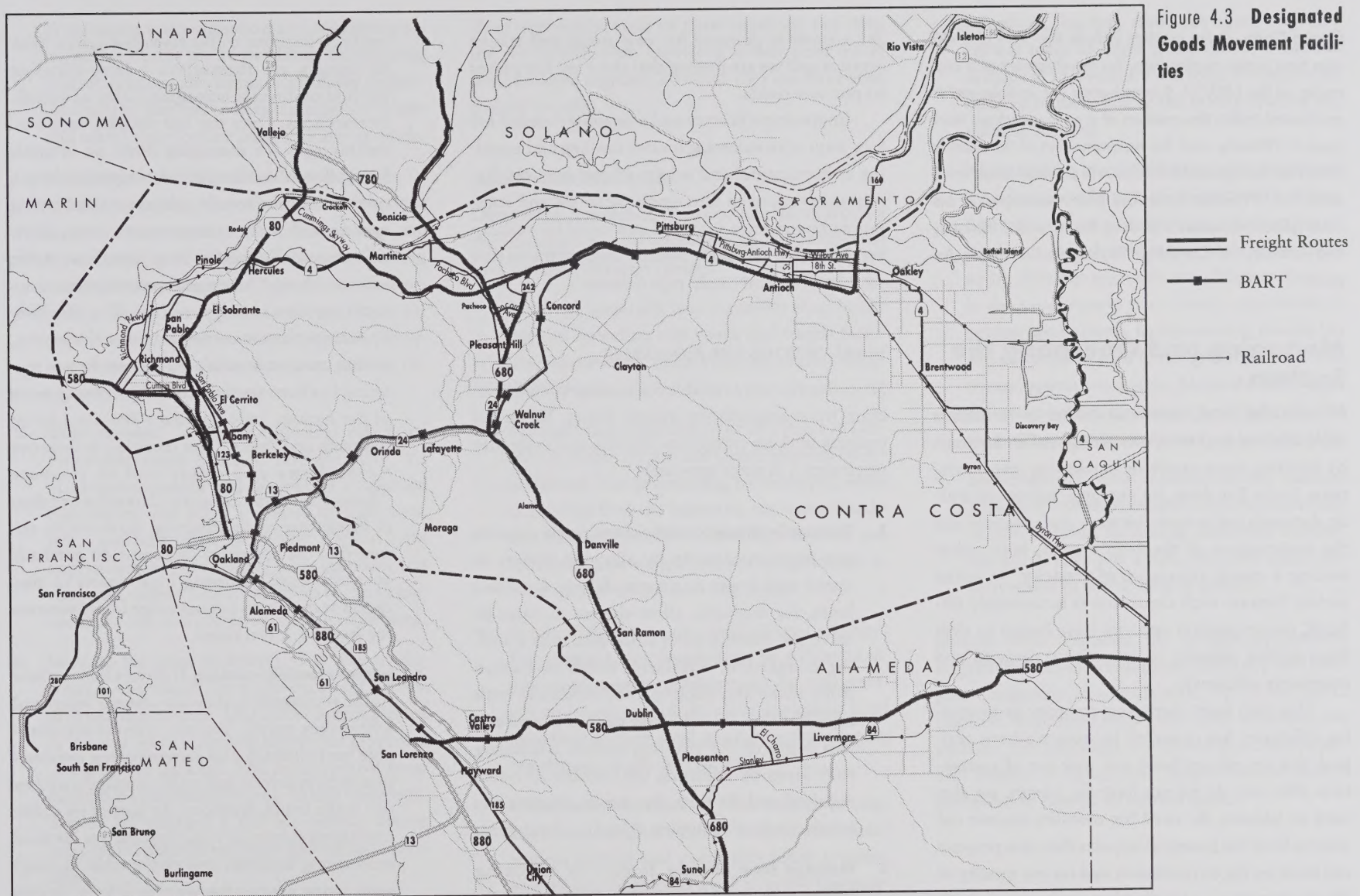
The Authority has identified the following strategies for supporting goods movement within Contra Costa and the region.

- **Increase the operational capacity of the existing highway and arterial roads systems through capital and operating enhancements**

As noted above, trucks depend on reliable travel times to ensure that deliveries arrive on time. Improvements to roadways that increase reliability, whether increases in physical capacity or operational changes, can help achieve this objective. These improvements could include grade separations and improved access routes to intermodal facilities, especially along the important goods movement routes identified in Figure 4.3. This map, which shows the key goods movement routes within Contra Costa, includes all interstates and State highways, the Richmond Parkway and other truck routes designated in local general plans.

- **Define and close gaps in the existing highway and arterial system**

Among the gaps and needed expansion projects are those that serve goods movement, whether solely or as an essential part of traffic on the facility. Several projects included in the Plan will help serve goods movement within



Contra Costa. These projects include the SR 4 gap closure now under construction, the development of a connector at the I-80/SR 4 interchange for southbound to eastbound traffic, the creation of a new waterfront truck route in Pittsburg, and the reconstruction of the Marina Vista interchange on I-680. Several projects constructed since the 1995 Plan have also been developed to address goods movement including the Richmond Parkway and extension of Cummings Skyway to San Pablo Avenue.

Managing and Operating the System

Historically, local, state and federal governments have tried to deal with increasing traffic demands by building more roads or expanding transit systems. In the Bay Area, for example, increasing traffic demands led to new freeways and arterials and the construction of the BART system, both representing a major expansion of capacity. As noted earlier, because such expansion is increasingly difficult, transportation agencies have begun to shift from adding capacity to minimizing demand and improving efficiency.

This shift from increasing capacity to increasing efficiency has occurred because we have realized that we cannot build our way out of congestion. Not only do we not have the money, we also need to balance the need for mobility against the need to limit the potential impacts that new projects can have on the environment and on our quality of life. Transportation funding has not kept pace with

the growth in demand for new roads and transit services and we are finding that there are few places to put new roads.

Improving efficiency and managing demand are two ways of overcoming limited funding and avoiding environmental and neighborhood impacts. Recent innovations in telecommunications and computing power have spawned new tools for managing the system and made possible improvements that were until recently only pipe dreams.

WHAT OPTIONS ARE AVAILABLE?

Six categories are available for managing and operating the transportation system better. While the projects in these categories overlap, each category represents a distinct approach.

1. **Remove bottlenecks and delays.** Some projects can increase capacity by allowing drivers to travel with fewer or shorter delays. Auxiliary lanes, for example, allow drivers to enter or leave the freeway more smoothly, thus avoiding congestion. Similarly, weigh-in-motion truck scales and electronic toll collection both significantly reduce the time needed to pass certain points on the roadway system. Managing HOV lanes by adjusting the number of riders required and the time they are in operation is another way of removing delays on the system.
2. **Manage flow directly.** Instead of removing bottlenecks, some improvements intervene di-

rectly to improve traffic flow and safety. Traffic signals are themselves a long-standing method of directly managing traffic at specific intersections. Over the last decade, improved technologies for managing flows on arterials have allowed us to coordinate signals along a corridor. More recently, adaptive signal timing systems and traffic management centers allow cities to rapidly modify their signals as traffic volumes change. Like signal coordination, ramp metering tries to improve overall traffic flow by limiting flow at certain points in the system, in this case, at freeway on-ramps. Ramp metering has been used successfully in many parts of the nation, including the I-880 corridor in Alameda and Santa Clara counties, to improve traffic flows and safety and to increase “through-put” on freeways. Care must be taken in instituting ramp metering, however, to ensure that the meters at on-ramps do not back up traffic onto adjoining local streets or that delays at meters do not outweigh improvements for freeway travel times.

3. **Improve decision-making.** If drivers know where traffic is congested, they can change when and where they travel. Various systems are available for collecting and disseminating information to both drivers and traffic managers so they can make better decisions. As part of its traffic operations system or TOS, Caltrans has installed monitoring facilities and changeable message signs along various freeways to inform drivers

of accidents and congestion and suggesting alternatives routes where available. Monitoring information can also be made available to drivers over the Internet to help them define routes and travel times before leaving home or work.

4. **Improve vehicles.** Significant new advances in computing power may allow radical changes in how we operate our cars. Researchers are experimenting with technologies for linking cars to each other or to “smart” roads electronically so that cars can be driven closer together and at more consistent speeds. These improvements could as much as double the capacity of our roadways.
5. **Shift demand.** Under the general rubric of “transportation demand management” or TDM, governments and businesses encourage commuters and other travelers to shift how, when and how often they travel. Typical TDM approaches include helping form carpools and vanpools, subsidizing alternatives to the single-occupant car, and encouraging telecommuting.
6. **Increase the price of driving.** One way to discourage the use of the single-occupant vehicle is to increase its cost. This can be accomplished in various ways including higher gas taxes and charging for parking. The most controversial method is *congestion pricing*. In this approach, drivers are charged a toll for driving during peak travel periods and thus adding to congestion.

Used separately, each of these methods can help improve traffic flow, especially within peak travel periods. Used together, however, they can have even greater benefits.

ISSUES AND OBSTACLES

Despite the promise of these options for improving the management and operations of the transportation system, obstacles remain.

- Although generally less expensive than building and operating new roads and transit facilities, operational improvements require additional funds.
- Methods that restrict flow at one point to benefit the larger system can create impacts on local streets. Ramp metering, for example, while improving flow on freeways, can create backups on local streets if metering rates are too restrictive and ramps are not long enough to store queues at the metering points.
- Some methods require institutional changes. For example, employers must be willing to allow employees to telecommute for this strategy to be successful. In some instances, local jurisdictions may need to change their zoning regulations to allow it as well.
- Other methods, especially those more cutting-edge technological options such as automated vehicle control and crash avoidance systems, will require additional work to prove their use-

fulness in practice. And they often require a critical mass of users to be useful; computer systems to link vehicles will require a significant number of users before the system realizes significant benefits.

- Many options must overcome public resistance. This is especially true of pricing mechanisms. The same reason that pricing mechanisms work — that is, people will travel at different times or by different means to avoid higher costs — is the same reason that creates opposition to pricing mechanisms. Unfortunately, pricing has the potential to lead to the greatest benefits to the transportation system. Methods that require drivers to relinquish control over their vehicles may also engender resistance, at least initially.
- Speeding up the flow of traffic can also increase hazards for pedestrians and bicyclists, especially at intersections. Balancing these two competing needs may put a limit on how much improvement in traffic flow is possible.

Despite these obstacles, the promise operational improvements hold to improve efficiency and mitigate congestion is considerable. Past attempts to improve operations may have only scratched the surface. The challenge is to develop a comprehensive system of operational improvements that is perceived to benefit all system users.

STRATEGIES

The Authority has identified the following strategies for managing and operating the transportation system within Contra Costa and the region.

- **Increase the operational capacity of the existing highway and arterial roads systems through capital and operating enhancements**

The Authority has supported a number of different operational improvements to the regional transportation system in the past and the 2000 Update includes a number of these as well. The San Pablo Avenue Smart Corridor is just one example. It includes an adaptive signal coordination program with connections to traffic management centers. The Plan includes other signal coordination projects as well as TOS along Contra Costa's freeways and new auxiliary lanes. In addition, the Authority supports ramp metering if studies show it can improve flow on freeways without shifting congestion and delays to adjoining local streets.

- **Promote formation of more carpools and vanpools, and greater use of transit, bicycling, and walking**

Measure C included funding for carpools and park-and-ride facilities and requires each jurisdiction to adopt and implement a TDM ordinance to receive a share of Measure C funds. As the TECA manager for Contra Costa, the Authority also supports other programs for managing demand on the region's streets and highways. In addition, the RTPCs are working, both alone and together, to implement TDM programs.

The Plan incorporates projects that supports TDM ef-

forts including, for example, the TR@KS program that provides transit and real-time traffic information and aids the formation of carpools and vanpools over the Internet and at stand-alone kiosks.



Maintaining the Transportation System

Federal, State and local agencies have invested hundreds of millions of dollars in Contra Costa's transportation infrastructure, from local streets and trails to the Interstate and BART systems. The vast majority of future trips is expected to use today's facilities. But even though jurisdictions and agencies are spending significant amounts on maintaining the transportation system, shortfalls — and complaints about potholes — persist. MTC estimates that, over the next 20 years, Contra Costa will need \$443 million more to meet this shortfall in mainte-

nance funding, including \$400 million for roadways and \$43 million for transit.

Maintenance of the transportation system is necessary for two reasons. First, it protects the significant investment that taxpayers and users have put into the system. Without continued investment in system maintenance, breakdowns will become more frequent and roadways less capable of carrying the increased traffic forecast over the next 20 years and beyond.

Which brings us to the second reason for investing in maintenance. Rough and potholed roadways mean slower speeds and breakdowns that prevent transit systems from meeting schedules mean fewer passengers carried. Both of these and other maintenance-caused problems lead to a system that has a lower capacity for carrying traffic.

To preserve our investment and ensure the continued functioning of the transportation system, the Plan proposes to focus a significant portion of available local, State, and federal funds on maintaining our existing transportation system.

Funds from a variety of programs can be used to maintain the transportation system. The Measure C half-cent sales tax, for example, provides funds to local jurisdictions for local street improvement and maintenance, if they comply with the requirements of the Growth Management Program. TEA-21, which is administered by MTC, also provides needed funding for maintenance. The revenues available through these programs, however, will not be sufficient to meet the projected backlog of maintenance needs.

STRATEGIES

The following strategies will work together to ensure adequate maintenance of the transportation system.

■ Advocate for stable sources of funds for transit operations

Measure C allocated 4.9 percent of revenues from the half-cent sales tax to bus transit. The Authority supports the continuation of such funding and has supported similar commitments at the State and federal level.

The Authority could reconsider the amounts allocated as part of a new measure to extend the Measure C sales tax after the original measure sunsets in 2009. Additional funding for bus transit operations could provide both stability in funding and support for the expansion of various needed bus services. The Authority will need to balance the need for such an increase against other programs and improvements.

■ Require programs for effective preventive maintenance and rehabilitation of the transportation system

The Authority has established a “maintenance of effort” requirement for jurisdictions that receive Measure C return-to-source funds. This requirement is intended to ensure that jurisdictions continue previous maintenance, rehabilitation and operational efforts and use the Measure C funds to expand either these efforts or their roadway system or both.

Such programs require good information to be effective. Many, but not all, jurisdictions have established pavement management systems.

■ Provide funding to reduce the backlog of rehabilitation and maintenance needs

■ Once the backlog has been addressed, promote stable funding and preventative maintenance programs that will maintain the long-term health of the system

Measure C allocates 18 percent of sales tax revenues to local jurisdictions for local street improvement and maintenance, if they comply with the requirements of the Growth Management Program. Many local jurisdictions — especially those with older streets and facilities — have used these funds for maintenance.

The revenue available through the local street improvement and maintenance funds, as noted above, will not be sufficient to meet the expected backlog of maintenance needs. To address this shortfall, the Authority supports the allocation of a portion of State and federal funds towards these maintenance needs. The share will, of course, need to balance the need for maintenance with the need to better manage the transportation system and to expand it where appropriate. One option would be to increase the percentage allocated to transit in a future sales tax measure.

The Countywide Comprehensive Transportation Plan (CCTP) is a long-range, comprehensive plan for the County of San Diego. It provides a framework for the development and implementation of transportation programs and projects. The CCTP is updated every five years to reflect changes in the County's transportation needs and priorities. The 2000 Update to the CCTP was the first update since the original plan was adopted in 1995. The update was developed through a series of public hearings and consultations with various stakeholders, including the County Board of Supervisors, the County Transportation Planning Board, and the public. The update includes a new vision statement, updated goals and objectives, and a revised list of transportation projects. The update also includes a new section on transit, which recognizes the importance of transit in the County's transportation system and outlines strategies for improving transit service. The update is a key document in the County's transportation planning process and provides a clear direction for the future of transportation in San Diego.

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Growth Management

At the beginning of the 21st Century, the Authority finds itself halfway through its growth management program (GMP). How well has the GMP worked, have we achieved what we originally set out to do, and, are any changes to the existing GMP warranted at this time? Building upon our recent efforts to define a GMP that would go 20 years beyond the existing Measure, this chapter outlines strategies, both adopted and proposed, for helping us manage future growth.

Forecasts indicate that Contra Costa and the Tri-Valley will add 29 percent more households and 46 percent more jobs between 2000 and 2020. Surrounding counties will also add households and jobs, with household growth especially high in San Joaquin and Solano counties.

The people who move into these new homes and work in these new jobs will place new demands on our streets, highways, buses, trains, and trails. They will also require additional public services such as police and fire protection, sewer and water facilities, flood protection, and parks and open space. Governments have had to grapple with these increasing demands by finding ways to provide mobility and public services without over-spending their budgets or imposing excessively high taxes.

WHAT IS GROWTH MANAGEMENT?

Governments have, over the last 50 years, begun to employ various techniques — often referred to collectively as *growth management* — to adequately serve a growing population. Generally, growth management can be defined as: *a coordinated approach for anticipating and managing new development to accommodate growth in ways that reflect community needs and balance community goals.*

Each growth management program is different. Generally, these programs address some combination of the following six concerns:

1. Identifying preferred locations for accommodating new development

2. Ensuring that adequate facilities and services are available as development occurs
3. Maintaining community character and quality of life
4. Preserving resource lands and environmental quality
5. Achieving economic development and social equity goals
6. Providing regional guidance and coordination

Which of these concerns the program addresses depends on which the particular community finds most important, given local and regional conditions in which the program is to be implemented.

THE MEASURE C GROWTH MANAGEMENT PROGRAM

The voters of Contra Costa have shown their concern for managing the effects of growth. Two years before the successful passage of Measure C in 1988, a similar measure, which would have funded a program of transportation improvements but not growth management, failed at the ballot box. When two years later an innovative growth management component was added, however, the voters approved it. Jurisdictions within Contra Costa have considered or incorporated growth management techniques into their planning and land use programs as well.

The Statement of Principles adopted in Measure C calls for growth management and regional

planning to ensure an acceptable quality of life and a healthy economy in Contra Costa. The Measure C Growth Management Program focuses on two of the six concerns listed above, ensuring that new growth provides adequate facilities before development occurs, and providing regional guidance and coordination. Under Measure C, new growth must “pay its own way” through local and regional mitigation programs. While land use remains the responsibility of local jurisdictions, Measure C encourages regional planning and requires local jurisdictions to plan together for the future.

Growth Management Issues and Obstacles

As outlined in Chapter 3, the vision for the 2000 Update is to:

Strive to preserve and enhance the quality of life and promote a healthy, strong economy to benefit the people and areas of Contra Costa, sustained by 1) a balanced, safe and efficient transportation network; 2) cooperative planning; and 3) growth management. The transportation network should integrate highways, local streets and roads, public transit, and pedestrian and bicycle facilities to meet the diverse needs of Contra Costa.

Achieving this vision — and the growth management, cooperative planning and efficient transpor-

What Measure C Requires

As noted in the Introduction, the Authority's GMP can be divided into two parts: the Authority's responsibilities and local responsibilities.

The Authority has three primary responsibilities. First, the Authority must prepare the *Countywide Comprehensive Transportation Plan*, and encourage cooperative planning among the jurisdictions within Contra Costa. Second, the Authority is responsible for developing and carrying out a *regional transportation mitigation program*. The Authority's program is built from the fees and impact programs adopted by the RTPCs. The Authority is also responsible for developing and maintaining computer models for analyzing the effects of land use changes and new transportation improvements.

Local governments, to receive their share of transportation improvement funds through the GMP, must:

- Adopt a growth management element, as part

of its General Plan, that establishes level-of-service standards for roadways and performance standards for other public facilities;

- Adopt a development mitigation program that ensures that new development pays its fair share of the costs of additional facilities needed to support it;
- Participate in cooperative planning with other jurisdictions in Contra Costa;
- Develop a five-year capital improvement program to meet or maintain traffic service and performance standards;
- Adopt a transportation demand management ordinance that complies with the direction of the Authority; and
- Address the balance of jobs and housing within the jurisdiction.

tation network called for in it — will require overcoming a number of obstacles.

DEFINING TRANSPORTATION AND LAND USE EFFICIENCY

Achieving a balanced, efficient transportation network will require understanding land use and how it affects transportation. Knowing what uses are

planned where, how intensely those uses will be developed, and the demands they will place on the transportation system are essential in defining an efficient transportation system.

But we can go beyond just responding to the planned pattern of land uses. The transportation system can be made more efficient if the pattern and intensity of land uses it serves are organized to make best use of it. Studies have shown that various pat-

terns of development can lessen our reliance on the automobile, and encourage greater use of walking, bicycling, carpools, and transit. These standards — often referred to as *transit-oriented development*, *pedestrian-friendly development* or more generally as *the new urbanism* — commonly include:

- **Greater mixing of land uses**, especially shopping, eating, and other personal service uses within employment centers and, to a lesser extent, within residential areas.
- **Increased density** of job centers and residential neighborhoods, especially near transit services.
- **Urban design** that provides safe, efficient and attractive facilities for bicycles, pedestrians and transit.

Defining a pattern of land use that increases the efficiency of the transportation system is difficult in practice, however. The first difficulty is in defining efficiency itself. Generally, an efficient system of transportation facilities moves people and goods with the least cost to both the users of the system and the governments and agencies that build and maintain it. Efficiency is affected by the value that users place on the service the facility provides, the cost of the facility to build and maintain, and the technologies that exist for movement.¹ Changes in

¹ Moore, Terry and Paul Thorsnes, *The Transportation/Land Use Connection*. Planning Advisory Service, Report Number 448/449, American Planning Association, 1994.



any one of these factors will affect the efficiency of the system as a whole.

Defining an efficient system of transportation facilities and land use is complicated by several factors. Our cities are no longer focused on a single job center. In the Bay Area, which has long had a complex system of employment centers, the growth of the region has been accompanied by the growth of this polycentric complex of employment, housing and shopping. The growing intricacy of commuting patterns has been accompanied by the growth of the two- (or more) earner household. In addition, workers now shift jobs more frequently,

which can be more efficient for both workers and employers by taking advantage of different skills and opportunities. This increasing complexity and shifting of personal commuting patterns, however, make it hard for policy makers to respond effectively and to maintain the most efficient pattern of land use.

Finally, changes to the transportation system itself can affect the land use demands and the efficiency of the transportation system. Generally, changes that improve access to job centers tend to encourage greater intensification at those job centers and more dispersal of housing. Some studies

suggest, for example, that BART, which has maintained access to San Francisco and Oakland, has helped maintain the attractiveness of those employment centers. Increases in the cost of getting to existing centers (through congestion or tolls) tend to encourage greater dispersal of jobs and concentration of housing. The increasing of satellite offices and telecommuting centers and the rapid rise in housing prices in and around Silicon Valley are examples of the effects of congestion there.

Despite these difficulties in defining an efficient land use and transportation system, various studies suggest that there are many strategies available to improve the efficiency of the transportation system. These strategies range from congestion pricing and increased parking fees to support for telecommuting and adopting transit-supporting or pedestrian-friendly development standards.

OBSTACLES TO IMPLEMENTING MORE EFFICIENT LAND USE PATTERNS

Strategies to support more efficient land use patterns face numerous obstacles.

1. **Existing Land Use.** Much of Contra Costa and the Bay Area are already developed. Strategies that require the redevelopment of those developed areas will require tearing down or remodeling existing buildings, which will raise the cost of construction, and therefore reduce the likelihood of it happening as long as there is reasonably-priced vacant land available elsewhere.

Where previous uses of the land resulted in pollution of the soil or other environmental damage, these costs can be astronomical, often requiring significant subsidies before redevelopment can occur.

2. **Realistic Market Assumptions.** These strategies must also reflect a realistic attitude towards the market for development within the region. To encourage infill and redevelopment, which can be more expensive than so-called “green-field” development, governments may need to subsidize the project or make it financially feasible in other ways. In addition, the proposed new land use must reflect a realistic assessment of the demand for the proposed use. Finally, questions about facilities in a community, including parks, shopping and especially schools, can make it more difficult to attract households and businesses to locations that might otherwise improve transportation efficiency.
3. **Conflicts with Other Goals.** Creating an efficient pattern of land use and transportation facilities is only one of the concerns that local and regional governments must address. Sometimes the achievement of greater transportation efficiency must give way when another community goal is threatened. While a new development may help reduce demands on the transportation system, it may also conflict with other established General Plan goals or policies such as preserving open space, community character or important habitat. Jurisdictions may need

to preserve that habitat to achieve one goal to the detriment of the other.

4. **Fiscalization of Land Use.** State law has placed considerable restrictions on a jurisdiction’s ability to generate the revenue needed to provide the public facilities its residents and businesses demand. This need for revenue has spawned a phenomenon called the *fiscalization of land use*. That is, jurisdictions may be more receptive to development proposals whose land uses could generate sales tax revenues than to those that can’t generate comparable revenue. While especially evident in the case of redevelopment, these land use choices can inhibit the creation of housing opportunities and encourage a pattern of uses based on revenue-generation more than on making efficient use of the transportation system and public services and preserving local resources.
5. **Public Resistance.** While people generally dislike sprawl, they also dislike developments and land use patterns that are often recommended for creating a more efficient land use pattern: higher densities, affordable housing, and a greater mix of land uses. These strategies are sometimes seen as reducing the value of their properties and the quality of life in their neighborhoods. Higher densities can increase traffic within neighborhoods even as it can increase the use of transit and bicycling and walking and reduce the length of commutes.

6. **Defining and Working In the Region.** While individual jurisdictions can carry out an effective growth management program at the local level, especially in achieving a concurrency between development and the facilities needed to serve them, other aspects of growth management are best done at a regional or sub-regional level. Urban limit lines, for example, are most effective when implemented regionally upon a consensus of cities and counties in the region. Given the polycentric nature of the Bay Area and the complexity of movement among the region’s many cities, some form of regional cooperation or direction will be necessary to identify and carry out a growth management program designed to create an efficient land use pattern. Even a program that spans the whole county may be too limited in scope.

The multi-jurisdictional, cooperative planning required in Measure C was a first step towards such coordinated growth management. Other efforts, such as the joint planning being begun by Contra Costa, Alameda and San Joaquin counties, also represent steps towards setting up a framework for regional policy-making that could inform local land use decisions. In addition, MTC and ABAG, working in partnership with the Congestion Management Agencies and other agencies, can help with exploring regional options for directing growth to different areas of the region and guiding how that growth occurs.

Strategies

To address these growth management issues, the Authority has identified the following strategies.

■ **Require cooperative transportation and land use planning among Contra Costa County, cities, towns, and transportation agencies**

Measure C – and the Growth Management Program that implements it – both require local jurisdictions to work together in a cooperative, multi-jurisdictional planning process. The joint preparation of the Action Plans was the beginning of this process. It included not only agreement on objectives and actions for each regional route within Contra Costa, but also a process for analyzing the impacts of proposed land use changes and review of environmental documents. The RTPCs, who prepared and adopted the Action Plans, also adopted programs for mitigating the impacts of development through fees or other mechanisms. These programs together form the Authority's Regional Traffic Mitigation Program. In addition, the RTPCs and the Authority work together on transportation planning such as the I-680 ramp metering study.

Options. The Authority could go beyond the Action Plan framework for planning by working with the RTPCs and local jurisdictions within Contra Costa to analyze alternatives for the development. These alternatives would look at the impacts that different patterns of land use and development could have on the local and regional transportation system, the ability of local jurisdictions to provide services, and the environment.

■ **Work to maintain and expand partnerships to achieve the Authority's goals**

■ **Participate in a regional cooperative land use planning process with agencies both within and outside of Contra Costa.**

These two strategies emphasize the key role that other agencies and jurisdictions, both within and outside of Contra Costa, will play in achieving the Authority's vision and goals. The Authority now works with many groups to achieve its goals. The RTPCs and the local jurisdictions that make them up are, of course, the most important: they are essential in identifying actions and putting them into place within their jurisdictions. Another key group is the Bay Area Partnership. This group, which includes MTC, ABAG, the Air District, other CMAAs and Caltrans, provides a forum for finding mutually-acceptable approaches to allocating available funding, implementing State and federal legislation, analyzing future traffic conditions, and other related areas of concern.

Continued involvement with these groups is essential to achieving the Authority's goals. The Authority, however, will also look to work with other groups – whether public or private – to carry out cooperative planning for land use and future development within Contra Costa and the region.

■ **Support land use patterns within Contra Costa that make more efficient use of the transportation system, consistent with the General Plans of local jurisdictions**

Studies suggest that several types of changes in land use patterns can benefit the transportation system and improve

its efficiency. These include increasing densities near transit stations and in transit corridors and encouraging mixed-use environments that make it easier for people to walk or bicycle, both to and from work and to do errands while at work. The decision to make or encourage these changes in land use, however, rests with local jurisdictions. The Authority can encourage such changes in several ways. One is to identify transit- or pedestrian/bicycle-supportive development standards that local jurisdictions can incorporate into their subdivision and zoning regulations. The Authority can also support efforts to create a transportation-efficient land use pattern of development by analyzing how changes in land use and transportation improvements can work more closely together. Such analysis could be useful in developing a countywide plan to influence the location of development.

■ **Require local jurisdictions to (i) establish standards for necessary public capital improvements, (ii) have new growth pay its fair share of the cost of such improvements, and (iii) link land use decisions to the level of local arterial system capacity that can reasonably be provided**

To carry out Measure C, the Authority's *Implementation Documents* have established requirements for each local jurisdiction to be eligible for their share of revenues from the half-cent sales tax. These requirements include the adoption of standards for roadways and other public facilities, mitigation fees and exactions for new development and a process for analyzing the impacts of new development on the roadway system. Continuation of these requirements will implement this strategy.



- **Link transportation investments to (i) support of an urban limit line jointly endorsed by the County, cities and towns, once it is established, (ii) new developments that enhance transportation efficiency and economic vitality, and (iii) infill and redevelopment in existing urban and brownfield areas**

This strategy calls on the Authority to focus its investments in the transportation system to support the cooperative land use planning process encouraged by the Plan. Once local jurisdictions agree to an urban limit line or other growth management approaches, the Authority will use its investments in the transportation system — from major capacity increases to investments in maintenance and operation — to support these approaches. This support

could be implemented in the following ways:

- **Support Infill and Redevelopment.** The Authority could focus the projects in the Strategic Plan and the Expenditure Plan to support infill and redevelopment.
- **Subsidize Transportation Needs of Infill, Affordable Housing and Redevelopment.** The Authority could, as part of the Expenditure Plan, also fund a program of transportation improvements needed to make projects that provide affordable housing, redevelopment or infill more feasible, or that support jobs in “housing-rich” areas.
- **Investigate Impacts of Land Use Changes.** The Authority, through the Countywide Comprehensive Transportation Plan or other process, could investigate, using its travel demand models, potential land use changes in Contra Costa and the region that could reduce demands or improve efficiency on the transportation system, and identify transportation programs and projects that would support those changes.
- **Improve the Fiscal Environment for Increased Cooperative Planning.** The Authority could support legislative changes that reduce the need for the “fiscalization” of land use, allow revenue sharing within counties or regions, and provide a stable source of funding for needed local government functions.
- **Focus Investments towards Growth Management.** The Authority could also focus its investments in major new facilities in areas, or for jurisdictions,

where those jurisdictions are found to comply with the GMP, and avoid funding projects for areas and/or jurisdictions that don't.

■ **Respect community character and the environment when considering proposed new transportation capital projects**

Improving the functioning of the transportation system is only one aspect of the Authority's vision. The Authority also hopes to preserve and enhance the quality of life of Contra Costa. To do this, the Authority, when assessing whether to implement or fund a project, will consider not only its role in improving traffic flow, but also its effects on the adjoining land uses and the general community. This will call for the balancing of regional and local needs for mobility with maintaining quality of life within the community. Achieving this balance may require the redesign of projects, including the selection of alternative routes or modes, and the incorporation of features that lessen the impacts of the facility. These features could include soundwalls, landscaping, sidewalks and other pedestrian features.

■ **Require local jurisdictions to incorporate policies and standards that support transit, bicycle and pedestrian access in new developments**

Various changes in how we develop our communities — some minor and other significant — can encourage greater use of transit and other alternatives to the single-occupant vehicle. These include designing streets to facilitate bus service; focusing land uses to bring more people closer to transit lines; providing direct pathways for transit riders from home to transit and from transit to work places; and

generally increasing densities near transit stations and job centers.

Options. The Authority could add a requirement that jurisdictions adopt such policies and standards to the GMP checklist or it could make it part of a revised CMP included in the extension of Measure C. The Authority could assist local jurisdictions by preparing model policies and standards.

■ **Support transit-oriented and pedestrian-friendly developments**

While the Authority does not currently contribute financially to the non-transportation aspects of transit-oriented or pedestrian-friendly developments, it can lend support to them in more indirect ways. First, it could work with local jurisdictions to identify ways of designing these projects to better ensure their success and community acceptability. Second, the Authority could fund transportation projects in and around the development that would also improve its chances of success.

Local jurisdictions could also encourage such developments, for example, by setting up expedited review processes for them and focusing infrastructure development to reduce costs and improve marketability.

The Action Plans

The Action Plans for Routes of Regional Significance are a key part of the cooperative process of transportation planning and growth management called for in Measure C. In the Action Plans, each Regional Committee has assessed the impacts of future growth on the regional transportation system and identified actions for mitigating these impacts. These plans serve as both the key forum for sub-area planning and the foundation for the proposed projects and actions in the Countywide Plan.

One of the goals of Measure C Growth Management Program is to reduce the cumulative impacts of growth on the regional transportation system through a cooperative, multi-jurisdictional planning process. The Action Plans for Routes of Regional Significance are the primary vehicle for achieving this goal. The involvement of all jurisdictions, which participate in the development, review and implementation of the Action Plans through their membership in the Regional Transportation Planning Committees (RTPCs), ensures that the Action Plans contains reasonable actions that enjoy strong local support.

The Action Plans also fulfill a key requirement of the Authority's Congestion Management Program (CMP) which requires a program for evaluating the impacts of land use decisions on the regional transportation system.

The RTPCs prepared the first Action Plans in 1994-1995 and their recommendations were incorporated into the 1995 Plan. These initial Action Plans contained the following components:

- Long-range assumptions of future land use based on local general plans
- Adopted traffic service objectives (TSOs) that use a quantifiable measure of effectiveness and a date for achieving them
- Specific actions to be implemented by each jurisdiction
- A process for consultation on environmental documents among jurisdictions

- A procedure for reviewing the impacts of proposed local General Plan amendments that could affect the achievement of TSOs
- A schedule for reviewing and updating the Action Plans

As part of the 2000 Update, the RTPCs prepared focused updates to the Action Plans. Each RTPC, at the Authority's request, thoroughly reviewed the TSOs and actions of their Action Plans, revisiting goals and tenets, eliminating actions that had been completed since 1994-1995, refining others to reflect changed conditions, and adding new ones. In some cases, one action will be suitable for implementation by several or all jurisdictions, and acceptable to all. In others, actions may be unique to a single jurisdiction.

This chapter provides an overview of the Action Plans, their adopted principles, goals, and tenets, and the key TSOs and actions that were updated. The Appendix includes details of the proposed actions for each Regional Route. The following chapter, Chapter 7, also looks at the TSOs and actions for Regional Routes, organized into six travel corridors.

Routes of Regional Significance

As part of its Growth Management Program, the Authority has designated a set of Routes of Regional Significance. These Regional Routes are those roads that connect two or more regions in Contra Costa,

cross county boundaries, carry a significant amount of through traffic, or provide access to a regional highway or transit facility. The Regional Routes include all State highways and freeways as well as key arterials such as San Pablo Avenue in West County, Ygnacio Valley Road and Contra Costa Boulevard in Central County, Pleasant Hill Road in Lamorinda, Leland Road and Lone Tree Way in East County, and San Ramon Valley Boulevard and Crow Canyon Road in the San Ramon Valley.

Figure 6.1 also shows potential future Regional Routes. These proposed roadways may meet the criteria for designation, once they are constructed. Designation of each, however, is subject to future review by the RTPCs and the Authority to determine if these routes meet relevant criteria. Formal designation requires Authority action by resolution, incorporating these potential routes into future updates to the CTP.

For non-regional routes, Measure C contains required level-of-service standards that local jurisdictions must maintain. The designated Regional Routes, however, are exempt from these standards. Instead, the RTPCs must adopt TSOs for these routes and work to achieve them through adopted actions.

Regional Transportation Planning Committees

The RTPCs are made up of elected and appointed representatives from each jurisdiction within the subarea, both city and county. Officials from transit agencies also serve on the RTPCs, either as vot-

ing or ex-officio members. Each RTPC is assisted by a Technical Advisory Committee made up of planning and traffic engineering staff from those jurisdictions.

There are four RTPCs in Contra Costa: the West Contra Costa Transportation Advisory Committee (WCCTAC), the Transportation Partnership and Cooperation (TRANSPAC) Committee in Central County, the Southwest Area Transportation Committee (SWAT) which includes both the Lamorinda and Danville-San Ramon areas, and the Transportation Planning Committee (TRANSPAN) in East County.

Each RTPC oversees one Action Plan except for SWAT, which oversees two. The Lamorinda cities of SWAT participate in the Lamorinda Program Management Committee (LPMC) which prepared the Lamorinda Action Plan. Danville, San Ramon and Contra Costa County worked on a separate Action Plan with Alameda County jurisdictions through the Tri-Valley Transportation Council (TVTC). That group, which includes Pleasanton, Dublin, Livermore and Alameda County as well as

the Contra Costa jurisdictions, has prepared and updated the Tri-Valley Transportation/Action Plan.

The *Countywide Plan* builds on the analysis and recommendations of the Action Plans. The process for developing the Action Plans is summarized in the Authority's Growth Management *Implementation Documents*. Excerpts from the Action Plans are contained in the separately bound Exhibits A through E to this Plan.

The sections that follow describe the principles, goals and tenets of the five Action Plans prepared by the RTPCs, their TSOs, and the key regional actions established to achieve them. Accompanying tables show how the proposed actions relate to the Countywide Comprehensive Transportation Plan goals — a graphic illustration of the priorities expressed in these plans.

West County

PRINCIPLES, GOALS, AND TENETS

In its West County Action Plan, the West Contra Costa Transportation Advisory Committee's (WCCTAC) "vision" for West County is improved quality of life resulting from a comprehensive transportation planning effort. This effort will be guided by five key considerations: mass transit, economic development, balanced land use, urban design, and multi-agency planning and coordination. WCCTAC's primary Action Plan goals include the following:

- Facilitate and encourage the use of mass transit and other alternative transportation choices such as ridesharing;
- Promote economic development; and
- Improve environmental quality.

WCCTAC also has developed a set of secondary Action Plan goals. These include such goals as improving local mobility by improving circulation on regional routes, coordinating land use and transportation planning, emphasizing pedestrian and bicycle design that includes appropriate scale, access and safety, and maintaining local economic viability and quality of life by emphasizing viable transit alternatives to single occupancy commute travel.

TRAFFIC SERVICE OBJECTIVES

The updated West County Action Plan organized the TSOs around the four goals of the 2000 Update: relieve congestion, manage growth, maintain the system, and encourage alternative travel modes.

For congestion relief, the Action Plan established level-of-service (LOS) standards for all roadways. For most of the more heavily traveled arterials (San Pablo Avenue and Appian Way), the standard is LOS "E". For all other non-freeway regional routes, the standard is LOS "D". The Action Plan also established a TSO of a delay index of 2.0 for San Pablo Dam Road.

For system maintenance, the Action Plan focuses on maintaining pavement and transit service



quality in West County as well as levels of satisfaction for transit riders at 1999 levels.

The Action Plan establishes a number of different TSOs relating to alternative modes, reflecting the emphasis in the West County on supporting the use of mass transit and other alternative transportation choices. They include TSOs relating to the use of single-occupant vehicles (achieving a drive-alone rate of no more than 75 percent by 2005) and increasing transit ridership (an increase in ridership of five percent between 1999 and 2005, both overall and for specific routes). The transit rider-ship TSO also includes restoring AC transit daytime and evening services to pre-1996 levels, improving cross-county service, addressing under-served, low-income transit needs, and improving security at bus stops and on buses. A number of TSOs measure bicycle and pedestrian use (increase their share of total trips to three percent by 2005) and the completion of bicycle networks on specific routes.

REGIONAL ACTIONS

The West County Action Plan focuses on making necessary improvements to its regional routes and employing a variety of creative measures to boost overall performance in the corridor. For instance, WCCTAC has added new TSOs and actions to support the creation of a more comprehensive system of bicycle facilities. The West County Action Plan also supports the development of a bicycle plan for West County and funding for several new bicycle improvements.

On Interstate 580, TSOs emphasize increasing the use of transit, include funding for a bridge toll study, development of park and ride lots, and participation in a bridge safety study for bicyclists. The North Richmond truck access study will identify strategies and facilities for efficiently providing goods movement facilities while minimizing impacts on the surrounding community. Proposed actions along Interstate 80 include initiation of a ramp metering and bridge toll studies, improved access to transit, construction of HOV lanes, funding to extend the Richmond BART line or other options, and an outreach campaign for ferry services, station improvements in Richmond, a new station in Hercules, and expansion of Capitol Corridor and San Joaquin rail service. The Action Plan also includes a section on improving senior and disabled transportation services within West County.

The West County Action Plan update has incorporated TSOs and actions from the San Pablo Dam Road-Camino Pablo Action Plan. Related actions for these roads are improved HOV capacity on I-80 and transit capacity throughout West County, as well as increased connectivity and frequency of bus service, bicycle lanes, and pedestrian amenities.

Two TSOs have been added for the Richmond Parkway, which was not yet completed when the 1994 Action Plan was adopted. These are to achieve LOS “D” at all signalized intersections and to increase bus ridership by five percent along the corridor, both by the year 2005.

The West Contra Costa County Action Plan

takes a very balanced approach to attain the goals of the 2000 Update. All actions effectively meet the goal of alleviating congestion on highways and arterial roads, and emphasize the growing trend toward expanded travel choices beyond the single-occupant vehicle.

See Table 6-1 for a more detailed account of the proposed actions in West County and their relation to the Countywide Comprehensive Transportation Plan goals.

Central County

PRINCIPLES, GOALS, AND TENETS

In its Central County Action Plan, the Transportation Partnership and Cooperation (TRANSPAC) has retained the three tenets from the previous plan: the commitment to improve freeway corridors for through traffic; establishment of a traffic management plan to manage traffic flow within Central County; and supporting a viable transit service. Two additional tenets were also added. These include supporting continued implementation of the TRANSPAC/TRANSPAC TDM program, and supporting development of a Countywide Goods Movement Plan to facilitate the movement of freight.

TRAFFIC SERVICE OBJECTIVES

As in the original plan, the updated Central County Action Plan establishes four TSOs for regional routes:

Table 6-1 Summary of West Contra Costa County Action Plan

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
Regional Actions Restoration of AC Transit daytime and evening services to pre-1996 levels, signal coordination, minimization of driveways on regional routes, funding for maintenance and repair, pavement management, promotion of alternative modes, bicycle routes and storage facilities, funding for Safe Routes to School	●	●	●	●
Interstate 580 Funding for bridge toll study, development of park & ride lots, participation in bridge safety study for bicyclists	●		●	
Interstate 80 Initiation of ramp metering and bridge toll studies, construction of HOV lanes, development of park & ride lots, enforcement of HOV lane requirements, funding to extend the Richmond BART line or other options, additional express buses, maintenance and capital improvements for all BART stations, shuttle bus service from major employers to BART stations, outreach campaign for ferry services, funding for improved ferry terminal parking and bus connections, expansion of Amtrak commuter rail, funding for construction of an I-80 Corridor bikeway	●	○	●	
Richmond Parkway Funding for grade-separated interchange, expanded express bus service, improved truck access routes that minimize neighborhood impacts, study continuous bicycle lanes	●		●	
San Pablo Avenue Clearly identified feeder roads, frequent express bus service to BART stations, development of bike lanes, completion of San Francisco Bay Trail, improved bicycle access and parking at BART stations, bus rapid transit in the San Pablo Avenue corridor	●		●	
State Route 4 Timely construction of divided highway, implementation of a SR4 bikeway	●		●	
San Pablo Dam Road Improved HOV and transit capacity on I-80 Corridor, improvements to I-80 interchanges, signal coordination, funding for regional route HOV facilities needs study, increased connectivity and frequency of bus service, bicycle lanes and pedestrian amenities	●	●	●	
Major Arterials Increased frequency on existing transit lines, implementation of an Appian Way bikeway, funding for design of Cutting Blvd corridor bikeways, improved bicycle security and parking facilities	●	●	●	●

1. A minimum average speed of 30 miles per hour on freeways (except on SR 4 from Willow Pass to SR 242 where it is 24 miles per hour) and 15 miles per hour on arterials
2. Maintain the existing delay index in corridors where it is less than 2.0, and improve it to at least 2.0 where it is higher (except on SR 4 from Willow Pass to SR 242 where the maximum delay index is 2.5)
3. Increase transit trips by two percent per year by 2010
4. Increase the vehicle occupancy rate to 1.2 or better by 2010

REGIONAL ACTIONS

In the updated Action Plan, TRANSPAC continues its commitment to improving the flow of traffic on freeways, chiefly by implementation of a comprehensive HOV system connecting the East, Central, and West County sub-areas. Such major roadways include I-680 from south of the Benicia-Martinez Bridge to North Main Street and State Route 4.

In addition to the East/Central/Southwest Ramp Metering Study funded by the Authority, TRANSPAC has continued to participate in the MTC Route 24/Caldecott Tunnel Study. Other major actions include supporting better coordination of new growth with available infrastructure and the preservation of land and open space resources, supporting TDM Programs to educate and encourage Contra Costa resi-

dents, employees, and commuters to use transit/travel alternatives instead of driving alone. Strong emphasis is placed on the needs of pedestrians and bicyclists in the design, construction, and maintenance of new roadways and widening projects where feasible.

Many of the planned improvements on I-680 have been completed. TRANSPAC has requested that the Authority undertake a “post mortem” on I-680 improvements to determine if the planned and recently constructed improvements will begin to alleviate congestion. In cooperation with other regional committees and Caltrans, TRANSPAC supports the funding and implementation of a comprehensive study of congestion management strategies along this major roadway. These studies are key in evaluating the impact of new and planned improvements and aid in addressing traffic congestion.

The Central County Action Plan emphasizes increased transit availability. With improvements to transit services through extensions/new routes, increases in frequency, and improved access to BART, commuters in this region are afforded alternatives to the private automobile. This availability in transit alternatives could potentially shift vehicle users toward transit.

TRANSPAC has determined that there is a need to approach and pursue growth management via a unified countywide approach to develop a comprehensive land use plan for all of Contra Costa County which should also be coordinated with the Countywide Transportation Plan. Central County jurisdictions have initiated growth management pro-

grams and actions. These include scaled back developments, transit-oriented developments, and strong growth control programs will contribute to reducing local congestion, and could be used as a model for others to follow.

The Central County Action Plan commits to alleviating congestion on its highways, maintaining the existing system, as well as providing expanded travel choices with an emphasis on transit. See Table 6-2 for a more detailed account of the proposed actions in Central County and their relation to the Countywide Comprehensive Transportation Plan goals.

East County

Vigorous housing growth is expected to continue in East County through 2020. Since 1990, ABAG in *Projections 2000* notes that East County has added 16,350 housing units. In the next 20 years, an additional 42,000 households are expected. The East County Action Plan anticipates this growth and strives to address its expected traffic impacts on the regional transportation system with a focus on jobs creation, multimodal system improvements, and incentives for encouraging alternative commutes.

PRINCIPLES, GOALS, AND TENETS

TRANSPLAN has taken advantage of the flexibility of the Growth Management Program to blend traditional and innovative measures and actions in its

Table 6-2 Summary of Central County Action Plan

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
1 – Support the continued implementation of a comprehensive HOV system, including SR 4, SR 242 and I-680 from the Benicia-Martinez Bridge to the southbound I-680 North Main offramp.... If the SR 242 or SR 4 HOV system is determined to be feasible, all funding sources, including subregional mitigation fees and other sources should be considered for project funding	●	●	●	
2 – Continue to monitor and determine the feasibility of operational improvements to the SR 4 side of the I-680/SR 4 Interchange and support the construction of a third lane on SR 4 from Solano/Port Chicago Highway through the I-680/SR 4 Interchange to Morello	●			○
3 – Continue to participate in the MTC Route 24/Caldecott Tunnel Corridor Study	●	●		
4 – Support funding and implementation of a comprehensive study to evaluate congestion management strategies in the I-680 Corridor and to develop recommendations for effective traffic management	●	●	○	
5 – Promote the expansion and development of an effective transit network within and through Contra Costa County, including feeder service and improved access to BART	●	○	●	
6 – Support TDM Programs to educate and encourage Contra Costa residents, employees and commuters to use travel/transit alternatives instead of driving alone	●	○	●	
7 – Support the expansion of the TR@KS website/kiosk system as a component of an enhanced countywide transportation clearinghouse for the coordinated distribution of commute alternative information	●	○	●	
8 – Continue to support the Measure C Growth Management Program	●	○	●	
9 – Support better coordination of growth with available infrastructure, preserve resource lands and open space	●	●	●	●
10 – Continue to implement the Central Contra Costa Traffic Management Program and cooperate and encourage participation by other RTPCs	●	●	●	●
11 – Evaluate the need, timing and impact of parallel and new arterials accessing Central County	●	●		●
12 – Seek funding for local improvements		●	●	●
13 – Include the needs of pedestrians and cyclists in the design, construction and maintenance of new roadways and widening projects, where feasible		●	●	●

Table 6-2 Summary of Central County Action Plan (cont'd.)

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
11 – Evaluate the need, timing and impact of parallel and new arterials accessing Central County	●	●		●
12 – Seek funding for local improvements		●	●	●
13 – Include the needs of pedestrians and cyclists in the design, construction and maintenance of new roadways and widening projects, where feasible		●	●	●
14 – Pursue funding to implement regional and local pedestrian and bicycle plans		●	●	●
15 – Continue to require that each TRANSPAC jurisdiction will use environmental review process for projects generating over 100 vehicle trips during the peak hour; and will assess if the project violates any Action Plan traffic service objective or actions, and will report attempts at mediation; and for proposed projects generating more than 500 peak hour vehicle trips, TRANSPAC may request and/or the local jurisdictions may volunteer to present the project to TRANSPAC	●	●	●	○
16 – Continue to implement the TRANSPAC Regional Transportation Mitigation Program	●	●		○

Action Plan. The Action Plan uses level-of-service standards delay indices, and peak-hour vehicle occupancy as its TSO for most regional routes. Actions to attain these TSOs balance road, transit, and operational improvements with economic development and growth management programs.

TRAFFIC SERVICE OBJECTIVES

The updated East County Action Plan uses three measures of performance in its TSOs: vehicle occupancy, level of service, and delay index.

The Action Plan establishes a TSO of 1.2 per-

sons per vehicle for both the freeway portions of SR 4 westbound and the Vasco Road corridor southbound in the morning peak.

The Action Plan applies LOS standards to non-freeway regional routes. The standards range from LOS “D” at signalized intersections on the non-freeway portions of SR 4, to LOS mid-“E” (95 percent of capacity) on Kirker Pass Road, Byron Highway, and Marsh Creek Road-Camino Diablo-Deer Creek Road.

For the freeway portions of SR 4 and the Vasco Road corridor the TSO is a delay index of no more than 2.5; for all other regional routes, the TSO is a delay index of no more than 2.0.

REGIONAL ACTIONS

The updated East County Action Plan adds three new actions to the 13 actions originally included to improve transportation along East County’s Routes of Regional Significance.

Highlights of these actions include such regional transportation improvements as widening along SR 4, the State Route 4 Bypass, and extending BART to Hillcrest Avenue. TRANSPLAN also proposes implementation of a growth management strategy that reduces the traffic impacts of future development

proposals in eastern Contra Costa County. By applying appropriate mitigation to development projects, this will result in development that minimizes impacts on regional routes and provides amenities that facilitate and encourage the use of non-automobile transportation. Such transportation alternatives include telecommuting, with incentives to employers, exploring commuter rail transit option, encouraging walking and bicycling, and expanded bus transit service both within East County and between East County and other areas.

To fund critical road improvements, TRANSPLAN jurisdictions have joined together to impose a sub-regional impact fee, a major accomplishment.

New actions include expanded bus transit service by working with Tri-Delta to provide bus-ori-

ented improvements along local routes and pursuing funding for expanded bus service. To pursue a better jobs/housing balance in East County, an action has been proposed to focus growth policies and programs on promoting employment development. To encourage adequate maintenance of East County's transportation system, an action has been added to ensure that sufficient funds are available.

Overall, the East County Action Plan contains a very strong and balanced program of actions. It achieves many of CTP's goals with emphasis on alleviating congestion on highways, and providing expanded travel choices through expanded bus transit service, BART, park-and-ride lots, pedestrian improvements, and telecommuter support.

See Table 6-3 for a more detailed account of the proposed actions in East County and their relation to the Countywide Comprehensive Transportation Plan goals.

Lamorinda

PRINCIPLES, GOALS, AND TENETS

Lamorinda's Action Plan update focused on updating the TSOs and actions of the previously adopted plan for SR 24, and added TSOs and actions to two routes that were not addressed in the 1995 Plan: Camino Pablo/San Pablo Dam Road and Pleasant Hill Road.

While the updated Action Plan

does not include specific principles, goals, or tenets, the actions are clearly centered on the Authority's goals with an emphasis on the first two: alleviating congestion and managing the impacts of growth.

TRAFFIC SERVICE OBJECTIVES

The Lamorinda Action Plan establishes TSOs for three regional routes: for State Route 4, Camino Pablo in Orinda, and Pleasant Hill Road in Lafayette. The two TSOs for SR 24 are 1) a delay index of 2.0 or better between I-680 and the Caldecott Tunnel during peak periods in the peak commute direction, and 2) a ten percent increase in daily ridership on public transit by 2010.

Five TSOs have been established for Camino Pablo/San Pablo Dam Road:

1. A delay index of no more than 2.0 by 2005.
2. A maximum wait of no more than one signal cycle for vehicles entering from side streets.
3. An average occupancy of 1.30 per vehicle by 2005.
4. A ten percent increase in bus ridership to 3,000 weekday riders on average, by 2005.
5. The addition of new bicycle or pedestrian facilities by 2005.

The Action Plan established two TSOs for Pleasant Hill Road: 1) a ten percent improvement (reduction) in the delay index by 2010, and 2) an average occupancy of 1.2 persons per vehicle by 2010.



Table 6-3 Summary of East County Action Plan

I Directly supports CTP Goal m Indirectly supports CTP Goal	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
1 – Implement regional transportation improvements SR 4 widening from Bailey Road to SR 4 Bypass; SR 4 Bypass; Buchanan Road Bypass; SR 4 widening through Oakley, Brentwood, Byron and Discovery Bay; capacity enhancements in Byron Highway Corridor; BART extension to Hillcrest Avenue	●			●
2 – Growth mitigation and monitoring program Implement a growth management strategy that reduces the traffic impacts of future development proposals in eastern Contra Costa County	●	●	●	
3 – Regional economic development program for East County Develop a regional economic development program for the five jurisdictions in eastern Contra Costa County. Cooperative marketing among East County jurisdictions; financial incentives, including reduction in regional traffic mitigation fee amounts; and participation by housing developers in the economic development strategy	●	●		
4 – East County subregional impact fee Periodically review the subregional transportation mitigation fee that pays a portion of regional improvements to SR 4 and the Buchanan Road Bypass.		●		●
5 – Spot traffic engineering improvements Monitor conditions on the regional route system and construct improvements as necessary to alleviate conditions that exceed traffic service objectives, particularly SR4	●			●
6 – Freeway and arterial traffic operations improvements Aggressively pursue traffic operation improvement projects on freeways with Caltrans, such as ramp metering at on-ramps with HOV bypasses; freeway service patrol; vehicle detectors and closed-circuit TV for real-time traffic monitoring; changeable message signs; and highway advisory radio	●		●	
7 – Explore commuter rail transit options Includes options on existing tracks with BART, Capitol Corridor Joint Powers Authority, San Joaquin Route (Caltrans), Altamont Commuter Express (ACE), AMTRAK or others	●	●	●	
8 – Park-and-ride lots Construct park-and-ride lots at strategic locations (Somerville Road/SR4; Main Street/SR 4; future SR 4 Bypass at Lone Tree Way and at Balfour Road; SR 4 Bypass at Walnut Blvd. or Camino Diablo near Vasco Road; and Delta Fair Blvd. at Century Blvd.)	●	●	●	●
9 – Transportation demand management programs Continue to participate in subregional efforts towards transportation demand management	●	○		○
10 – Telecommute promotion. Promote telecommuting as a transportation alternative, including information to employers; information and technical assistance to developers and homeowners associations; information and assistance to individuals; require new development to incorporate design features that make telecommuting a viable option for residents	●	●	●	

Table 6-3 Summary of East County Action Plan (cont'd.)

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
11 – Intermodal transit centers Develop East County BART stations as intermodal transit centers: improve coordination and interface between BART and bus transit and produce station area-specific plans	●	●	●	
12 – Transportation funding Lobby for increased state or regional transportation funding	○			
13 – Encourage walking and bicycling transportation Provide improvements that encourage walking and bicycling in conjunction with street improvement projects or new streets; identify and eliminate physical barriers to bicycle and pedestrian travel	●	●	●	●
14 – Expand bus transit service Foster expansion of bus transit service within East County and between East County and other areas to provide an alternative to driving and to complement BART service in East County	●	●	●	
15 – Pursue a jobs-housing balance in East County East County jurisdictions should work on growth policies and programs to promote more employment development, to provide an opportunity for shorter East County commutes and to use available transportation capacity in what is now the "reverse commute" direction	●	●		●
16 – Encourage adequate maintenance of the transportation system East County jurisdictions should work towards ensuring adequate funds and systems to properly maintain the transportation system, including Routes of Regional Significance, public transit vehicles and facilities, bike and pedestrian facilities and park-&-ride lots				●

REGIONAL ACTIONS

Under the auspices of the Southwest Area Transportation Committee (SWAT), the Lamorinda Program Management Committee (LPMC) has established TSOs and actions for State Route 4, Camino Pablo in Orinda, and Pleasant Hill Road in Lafayette.

For SR 24, the adopted actions include funding for auxiliary lanes, support of an incident management program on SR 24, and continued participa-

tion in MTC's State Route 24 Caldecott Tunnel Corridor Study.

For Camino Pablo, actions include improving signal coordination, promoting HOV improvements and increased carpooling, improving access to transit stops, seeking additional transit funding and exploring service reorganization, and adding bicycle lanes where appropriate.

Several actions are proposed that apply directly to Pleasant Hill Road. These include implementing effective signal coordination; providing bus service,

including service to Acalanes High School; supporting freeway capacity and additional HOV facilities that take pressure off Pleasant Hill Road; supporting park-and-ride lots, bicycle facilities, traffic calming in adjoining neighborhoods and other TDM activities.

The Lamorinda jurisdictions will continue their sub-regional transportation fee on new development to fund transportation improvements. New development within Lamorinda is required to pay their "fair-share" toward transportation improvements.

The LPMC is committed to exploring land use policies that minimize single-occupant vehicle trips, including augmented and expanded bus services. By concentrating new development around transit corridors and within walking distance of transit stations, these measures help give commuters a wider range of transportation alternatives. Mixed-use projects that promote “shared” trips and well as pedestrian/bicycle transportation will be desirable to reducing congestion in Lamorinda.

Lamorinda actions also include pursuing financial incentives to implement sound growth control strategies and support strengthening of growth management policies. Travel Demand Management (TDM) programs will be expanded to increase alternative transportation modes and overall vehicle occupancy. Such TDM activities will include ridesharing, casual carpooling, bicycling, and BART pool using resources such as the SWAT TDM program and RIDES for Bay Area Commuters.

The Lamorinda Action Plan mainly is aimed at alleviating congestion on highways and arterial roads, but also encourages programs to increase transportation alternatives to the single-occupant vehicle.

See Table 6-4 for a more detailed account of the proposed actions in Lamorinda and their relation to the countywide Comprehensive Transportation Plan goals.

Tri-Valley

PRINCIPLES, GOALS AND TENETS

The Tri-Valley Transportation Council (TVTC) has formulated its plan based on three contributing factors to achieve the best level of service within their subregion. These include financial considerations, physical limitations within corridors, and development patterns. Their approach is unique in its recognition of existing capacity restraints at the “gateways” into the area. While gateways exist throughout the county virtue of our hills, valleys, narrow passes and waterways, the Tri-Valley Action Plan goes a step further by assuming no increased capacity for single-occupant vehicles at the major roads entering the area. This approach was key to helping TVTC focus its efforts on balancing growth with roadway and transit improvements within.

The Tri-Valley has grown vigorously over the last ten years and forecasts suggest that this growth will continue. Having already added 19,000 households since 1990 according to ABAG’s Projections 2000, the area is forecast to have 45 per-cent more households and 59 percent more jobs in 2020 than in 2000. Both today and in the future, a ratio of one employed resident for every job is expected. Development of both housing and jobs is expected to occur at lower, suburban densities. While this development pattern is difficult to serve effectively with transit, the Action Plan supports higher den-

sity, more transit-oriented developments within the Tri-Valley close to mass transit facilities.

TRAFFIC SERVICE OBJECTIVES

The Tri-Valley Action Plan uses intersection level-of-service standards for arterials. Most arterials were given a TSO of a volume-to-capacity ratio that less than 0.9; the remainder were given a TSO of a volume-to-capacity ratio that less than or equal to 0.91. For I-680 and I-580, the Action Plan establishes a TSO of an average speed of 30 MPH and a delay index of no more than 2.0 during peak periods; the Action Plan also established a TSO of no more than five hours congestion for I-680 south of SR 84. For SR 84, the TSO is a volume-to-capacity ratio of no more than 0.99.

REGIONAL ACTIONS

The Tri-Valley Action Plan has been updated to reflect adoption of the Tri-Valley Transportation Development Fee and Strategic Expenditure Plan for allocating funding from that fee. The plan retains the “gateway constraint” approach from the 1995 Action Plan, which assumes that the capacity for single-occupant vehicles at gateways into the Tri-Valley — Interstate 680 north and south, Interstate 580 at the Altamont Pass and Dublin Grade, and Vasco and Crow Canyon Roads — will not be increased. The update Action Plan adds a new action calling for the study of corridor management strategies for addressing congestion on Interstate

Table 6-4 Summary of Lamorinda Action Plan

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
1 – Seek funding for an auxillary lane on eastbound SR24 Gateway on-ramp to Brookwood and continue completion of improvements to eastbound Brookwood off-ramp subject to specific design criteria	●			
2 – Support efforts of Caltrans and the California Highway Patrol to Implement an incident management program on SR 24	●			
3 – Monitor and evaluate Regional Routes on a biennial basis	●	●		
4 – Continue to monitor and participate in MTC's SR24 Caldecott Tunnel Corridor Study	●	●		●
5 – Continue to provide a Lamorinda sub-regional transportation program	●			●
6 – Review General Plan Amendments and any projects that generate more than 50 peak (AM or PM) hour trips to ensure that the proposed project does not violate the Lamorinda Action Plan	●			
7 – Pursue financial incentives to implement sound growth control strategies and support strengthening of growth management policies	●	●	●	
8 – Encourage expanded Travel Demand Management (TDM) programs to increase the use of alternative modes of transportation and increase overall vehicle occupancy. Promote TDM activities including ridesharing, casual carpooling and BART	●	●	●	
9 – Support expanding transit service, including service between Lamorinda BART stations and adjacent communities, service on Pleasant Hill Road, service to Bishop Ranch and the Tri-Valley area, and service through the Caldecott Tunnel	●	●	●	
10 – Support BART and CCCTA strategies that enhance transit ridership and reduce single-occupant vehicle trips and encourage casual carpools for one-way BART ridership	●	●	●	
11 – Seek funding to construct park-and-ride lots along primary arterial roads throughout Lamorinda	●	●	●	
12 – Evaluate and seek opportunities to improve and/or build walkways/bikeway facilities between as the Lamorinda BART stations and adjacent land uses and communities as outlined on the map included in the Action Plan			●	

Table 6-4 Summary of Lamorinda Action Plan (cont'd.)

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
13 – Support bus headway reductions on the Bay Point/Colma BART line and reinstatement of direct service to important employment centers such as Pleasanton and Bishop Ranch	●	●	●	
14 – Seek and support funding for augmentation and expansion of bus service in Lamorinda, including school buses	●	●	●	
15 – Support augmentation and expansion of, and seek funding for, subscription bus service (flex van) to BART stations and high volume ridership locations such as St. Mary's College, to provide additional transit opportunities		●	●	○
16 – Support continuation and expansion of Measure C return-to-source funds for road maintenance.	●			

680 between State Route 4 and Interstate 580.

The Tri-Valley Action Plan discusses a number of corridor management strategies. Many alternative strategies to adding new lanes or building new roads are available to help reduce congestion and serve planned growth. Ramp metering is one solution, which helps control the volume of traffic entering a freeway so the system is as efficient as possible. Though ramp metering has many benefits, the plan acknowledges its two potential drawbacks. These are backups on the local street system and rewarding long-distance commuters. The TVTC sup-

ports ramp metering with HOV bypass only where it will not seriously impact local streets and where local implementation is tied with implementation in neighboring communities.

Increased HOV lanes also provide the advantage of reducing travel times for ridesharers and transit patrons. The TVTC recognizes the benefits of HOV lanes, but realizes that "take-a-lane" programs do not work: HOV lanes must be added to the freeways.

The key transit improvements in the Tri-Valley have been the extension of BART to Dublin-

Pleasanton and the institution of ACE commuter service between Central Valley and Santa Clara County. New express bus service is also included in the Action Plan to serve corridors not presently served by BART.

The Tri-Valley Action Plan is extremely comprehensive and well balanced in meeting the CTP's Goals. See Table 6-5 for a more detailed account of the proposed actions in Tri-Valley and their relation to the Countywide Comprehensive Transportation Plan goals.

Table 6-5 Summary of Tri-Valley Action Plan

● Directly supports CTP Goal ○ Indirectly supports CTP Goal

	CTP Goals			
	Alleviate Congestion	Manage Growth	Expand Choices	Manage the System
PROPOSED ACTIONS				
1 - Increase AVR for peak hour trips from 1.1 to 1.2 through increased number or frequency of express buses, new HOV lanes, other transit improvements and local TDM programs	●	●	●	
2 - Improve the operational efficiency of freeways and arterial streets through effective corridor management strategies. These strategies could include traffic operations systems and ramp metering, provided studies show that metering would effectively reduce overall delay within the corridor and not adversely affect operations of adjacent intersections. Provide HOV bypass lanes wherever space permits	●	●	●	●
3 - Support growth that achieves an overall jobs-housing balance within the Tri-Valley	○	○	○	○
4 - Support new funding sources to support commute alternatives and fund for needed transportation projects	●	●	●	
5 - Support development of a seamless HOV network in the Tri-Valley to encourage the use of carpools and bus transit, and explore the possibility of connecting the HOV network to adjoining areas	●	●	●	
6 - Work to find sources of stable funding to support ongoing transit operations and to support new or enhanced express bus service	●	●	●	●
7 - Support the preparation by Caltrans of an incident management plan for the State highways in the Tri-Valley	●			
8 - Meet objectives and actions for each designated route of regional significance within the Tri-Valley. These objectives and actions include funding for auxiliary lanes, interchange improvements, widening, bicycles lanes, HOV lanes, express bus service, commute alternatives, park and ride facilities, major transit investments, preparation of a comprehensive evaluation of alternatives strategies to manage growing traffic congestion	●	●	●	●

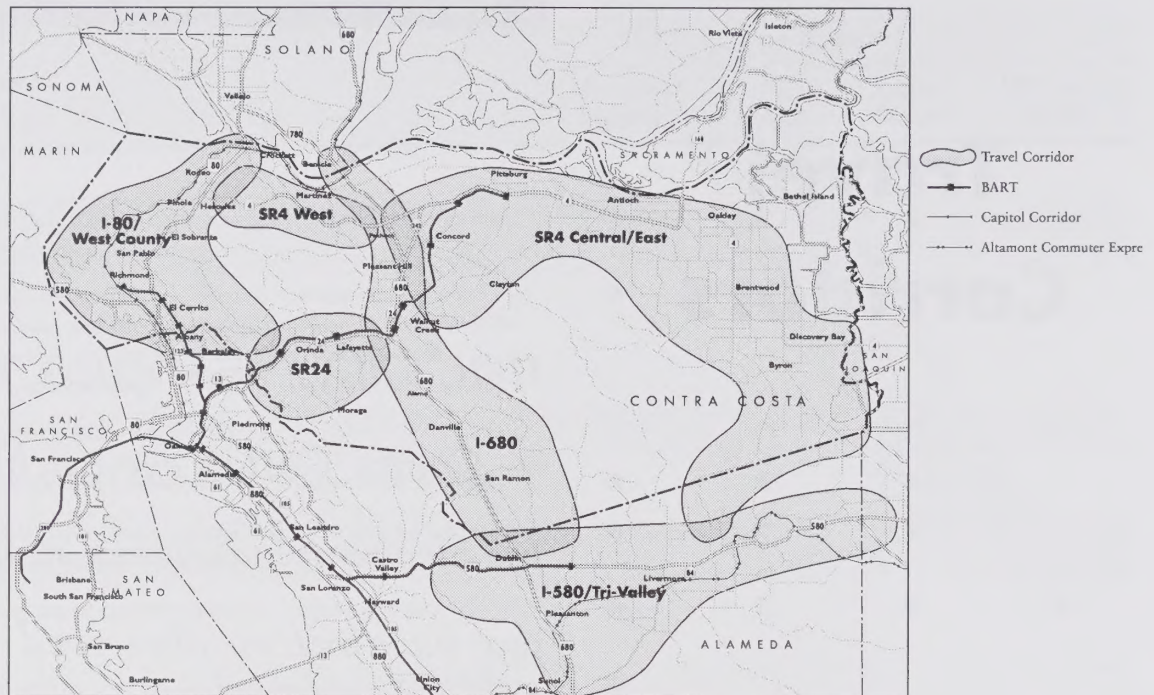
Travel Corridors

Hills, valleys, open spaces, narrow passes, and waterways — Contra Costa's eye-catching geography not only makes for pleasurable viewing; it also defines the travel corridors that have historically served our region. The forecast growth of traffic in these corridors raises mobility issues that might be more easily addressed in a less challenging geographic environment. We have identified six corridors, with a unique set of issues and varied approaches for improving mobility within each.

The 2000 Update focuses on six travel corridors within Contra Costa and the Tri-Valley: I-80/West County including San Pablo Dam Road, State Route 4 West, I-680 between the Benicia-Martinez Bridge and I-580, State Route 24, State Route 4 East and I-580 through the Tri-Valley. Although we have named them after the primary freeway serving the corridor, each corridor includes and depends on the network of freeways, streets, rail and other transit, and pedestrian and bicycle facilities that serve travelers within and through that area.

Resolving the issues facing the corridors will require analysis and resolution of three controlling factors: demand, supply and operation.

- Demand is a function both of population and job growth and of the pattern this growth takes. Generally, as the number of households and jobs increases, so does the number of trips made on the system. The number of trips made — as well as when and how they are made — is affected by who lives in these new households, their income, the location and the type of jobs they commute to, and the degree they link the various trips they make together.
- Supply refers to the capacity of facilities in the corridor, including not only roadways, but also other modes of travel. Local governments, transit agencies, State and federal agencies, and other transportation service providers often respond to growth and the traffic it generates by increasing supply. Increases in capacity can clearly remove bottlenecks and improve the



movement of people and goods. On the other hand, increasing supply requires funds that are often in very short supply. Increases in supply can also facilitate increased trip making, absorbing new capacity over time, or the shifting of bottlenecks to other places. Secondary impacts, such as noise, air pollution, and loss of habitat, also make such improvements — whether roadways or transit — controversial. The trick is to find a balance that provides needed and useful increases in capacity with-

out just shifting congestion and minimizing secondary impacts.

- Operational improvements can be a cost-effective way of helping accommodate travel demand by making the system more efficient. Adaptive traffic signal timing and traffic management centers, improved intermodal transfers, signal preemption for transit, automatic vehicle locator systems for buses, ramp or signal metering, and changes in how hov lanes

operate can all address problems by improving the efficiency of the existing regional transportation system. Making the most of existing facilities will be key in making our transportation investments pay off in the future.

The following sections describe each corridor — what development and transportation facilities are there now — the growth in expected demand, and the issues resulting from that growth. These descriptions are followed by a summary of the general approach taken in the Action Plans and this Plan for addressing those issues. Finally, each section includes a description of the projects and programs proposed to carry out each corridor approach.

Interstate 80/West County

West County lies at the northern end of the flatlands and hills of the East Bay that border San Francisco Bay. It includes some of the older urban areas in the county, including the port and industrial communities of Richmond, Rodeo and Crockett as well as some of the older post-war suburbs. Much of West County was built as much around the streetcars that ran north from Oakland and Berkeley as around the private automobile. The newer suburban developments in the northern and eastern portions of West County are more auto-oriented in character.

The dominant transportation facility in West County is I-80, one of the first and now most heavily traveled freeways in the Bay Area. It runs roughly

north to south through West County, connecting this area to Alameda and San Francisco counties to the south and, by way of the Carquinez Bridge, to Solano County and beyond to the north.

West County, however, is also served by other important facilities. Another freeway — I-580 — connects West County to Marin via the Richmond-San Rafael Bridge. The recently completed Richmond Parkway provides a new connection between I-580 in Point Richmond and I-80 near Hilltop, allowing trucks and other traffic to avoid congestion on I-80 and using surface streets in El Cerrito, San Pablo and Richmond. The Richmond BART line and the Capitol Corridor provide rail transit service, while major arterials such as San Pablo Avenue and San Pablo Dam Road, and a dense network of other arterial, collector and local streets provide facilities for vehicular movement.

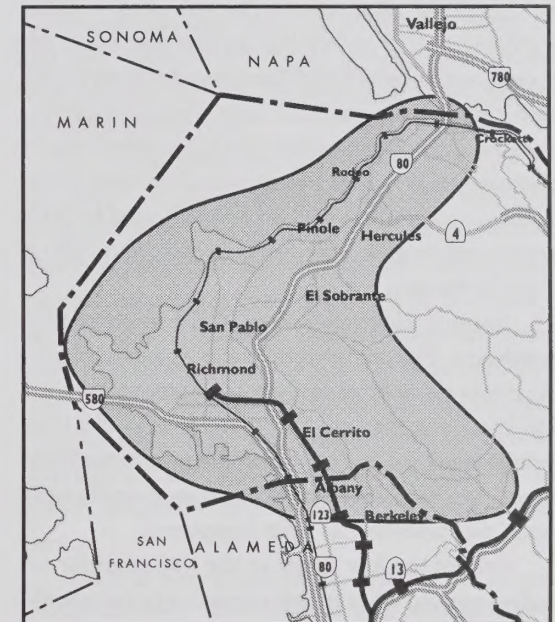
Bus service includes an extensive network of routes on the surface streets provided by AC Transit and WestCAT with some express bus service on I-80. The express bus service includes service from Solano County and park-and-ride lots within West County to BART and to San Francisco. These express bus routes have taken advantage of the new HOV lanes on I-80 to provide fast and reliable service to commuters.

ISSUES FACING THE CORRIDOR

Both household and job growth in West County will continue, with an additional 10,250 new homes and 23,000 new jobs between 2000 and 2020.

While this growth will narrow the gap between the number of employed residents and the number of jobs in West County, the area is expected to continue to export workers every day. This imbalance between jobs and housing in West County, combined with unfilled, higher-paying jobs in Oakland and San Francisco and an excess of housing in adjoining Solano County, will lead to increasing commuting into, out of and through West County.

This increased out- and through-commuting will place additional burdens on the regional transportation system, especially but not solely on I-80. Our models forecast significant increases on I-80 — ranging between 25 and 40 percent, depending



on the segment — over the next 20 years. Travel speeds on I-80 are currently between 25 and 30 miles per hour during peak commute periods. While speeds are not expected to decrease significantly in the future for single-occupant vehicles, the extent of congestion will creep northward. A trip from Vallejo to San Francisco, which now takes an hour, is expected to take one and a half hours in 2010. A trip from Fairfield to Berkeley, which also takes an hour currently, could take an hour and 20 minutes in 2010. Carpools, however, should still make it within an hour.

Increased congestion on I-80, especially at the toll plaza at the Bay Bridge, has encouraged drivers to search for alternatives. One alternative is the expansion of Transbay bus service that takes advantage of the new HOV lanes on I-80. Both BART and the Transbay service have shown steady increases. Carpooling, which also takes advantage of the new HOV lanes, has increased as well. Park-and-ride facilities along I-80 are well-used by both transit riders and carpoolers; in fact, most fill up early in the day.

Another alternative is to divert to alternative roadways. The completion of the Richmond Parkway appears to have encouraged commuters to use Highway 101 through Marin and the Golden Gate Bridge to get to San Francisco. Volumes on the Richmond-San Rafael Bridge have increased significantly since the Parkway has been completed.

One of the key issues in the I-80 corridor revolves around what transit options WCCTAC should emphasize first in the corridor. While the Action



Plan continues to support extension of BART, WCCTAC is holding discussions on whether BART, light rail or other transit approaches would better meet the goals and objectives of the Action Plan and reflect the limited funding available for such extensions. The MTC corridor study for I-80 suggested that expanded express bus service on I-80 and greater frequency on the Capitol Corridor (with a new station or stations in West County) would be more cost-effective. The construction of light rail service in the San Pablo Avenue corridor from downtown Oakland to Hilltop is another possible alternative to BART.

Volumes remain high on San Pablo Avenue, the primary arterial paralleling I-80. When congestion is high on I-80, commuters frequently divert to San Pablo Avenue where travel times are (or drivers hope could be) shorter.

On San Pablo Dam Road, both the West County and Lamorinda Action Plans address con-

tinuing operational issues, especially backups on and along the roadway, through improved signal operations and more frequent and better coordinated transit service. The Action Plans also call for balancing roadway capacity for through traffic and capacity for local traffic.

Much of the I-80/West County corridor is built out which makes expansion of roadways, both major freeways and local streets, more difficult and expensive. It also increases the expense of extending rail facilities where right-of-way does not already exist. Projects to increase the operational efficiency of the transportation system, such as the San Pablo Avenue SMART Corridor and the extension of the HOV lanes to the Carquinez Bridge, will help provide increase in operational capacity.

On San Pablo Dam Road, both the West County and Lamorinda Action Plans address continuing operational issues, especially backups on and along the roadway, through improved signal operations and more frequent and better coordinated transit service. The Action Plans also call for balancing roadway capacity for through traffic and capacity for local traffic.

APPROACH FOR I-80/WEST COUNTY

Recognizing the limits that right-of-way and funding place on expanding the capacity of I-80, the West County Action Plan and the 2000 Update envision few improvements for drive-alone vehicles in this corridor. Yet, with the growth in housing “upstream” in Contra Costa and Solano Counties,

and continued job growth “downstream” in West Contra Costa, Alameda, and San Francisco, daily volumes on I-80 will grow by as much as 40 percent on certain freeway segments in the corridor. With focus on alternatives to the single-occupant vehicle, the hours of congestion experienced by solo commuters will expand, while those willing to carpool or take transit will be able to bypass the worsening congestion.

In the short term, approach is to encourage greater carpool and transit use. Supporting actions include completing the HOV lanes on I-80 between the State Route 4 and the Carquinez Bridge; providing incentives for more carpool and vanpool use; increasing transit ridership in the I-80 corridor (including adding express bus service from Solano County and adding express bus service to BART and other transit terminals such as the Transbay Terminal); and increasing transportation demand management programs.

In the longer-term, the vision includes working with Solano County to determine a strategy for reducing traffic on the Carquinez Bridge and downstream (including review and development of efforts such as bridge toll increases, designing a new Carquinez Bridge span, and metering traffic flow). As part of this longer-term strategy, the vision supports new rail service, which could include BART to Hilltop Mall or beyond, increased Capitol Corridor and San Joaquin service, or light rail within the I-80/San Pablo Avenue corridor.

SUMMARY OF PROPOSED PROJECTS

A variety of projects and programs are proposed for the I-80/West County corridor to carry out this vision. These are summarized in the following table.

State Route 4 West

The western portion of State Route 4, which connects West and Central Contra Costa, runs through areas that are primarily non-urban, whether in permanent open space or agricultural use. The East Bay Regional Park District manages some of these areas while the other portions are part of the Briones agricultural preserve. At either end, however, are urban areas: Hercules at the western and Martinez and Pacheco at the eastern. The eastern half of the highway is a full divided freeway while the western half is a two-lane, undivided road. The expansion of this roadway to a divided expressway is currently underway which will address safety and capacity issues in the corridor.

There are few alternative routes to SR 4. Franklin Canyon Road provides an alternative route, especially for bicyclists, east of Cummings Skyway, while the Skyway provides an alternative route to I-80. Because there is no direct southbound to eastbound connector between I-80 and State Route 4, trucks often use Cummings Skyway as an alternative, despite several steep portions of roadway.

Compared to other commutes in the county, State Route 4 West carries relatively few trips. While

SR 4 is estimated to now carry between 50,000 and 60,000 trips each day, I-80 carries between 106,000 and 160,000 trips and I-680 carries between 102,000 and 151,000 trips. Although the increase in capacity represented by the completion of the SR 4 gap closure project will attract additional trips to the corridor, demand — and congestion — will remain relatively low.

ISSUES FACING THE CORRIDOR

In the 1995 Plan, one of the key issues for the corridor was the remaining gap in State Route 4 — a two-lane rural highway between I-80 and the existing divided, four-lane expressway that starts at Cummings Skyway. With the imminent filling of this gap, many of the issues of safety and traffic flow through the corridor will be resolved. Issues, however, will remain.

Although the gap will provide a safer and more efficient route for trucks (as well as other vehicles), trucks traveling east do not have a direct connection from southbound I-80. The difficulty of making that connection encourages use of Cummings Skyway as an alternative, which creates additional issues. Cummings Skyway is a two-lane roadway that is quite steep in places. Trucks using that roadway can block other users and present hazards to bicyclists on the roadway. (Cummings Skyway is also an alternative to State Route 4 for those travelers.)

There is also a continuing demand for transit service between West County and Martinez and

Programmed and Planned Projects in the I-80/West County Corridor

This table outlines key projects and categories of projects for the I-80/West County corridor. See Appendices for detailed list of projects.

PROGRAMMED OR UNDER CONSTRUCTION

Note: *Projects that are under construction show a projected completion date in parentheses*

Richmond Intermodal transfer station: Improvements to enhance BART, bus, Amtrak transfer, BART at Richmond station

Richmond Bike Trail: Construct 1-mile Class 1 bikeway, in Richmond at Miller-Knox Regional Park

Richmond Parkway, Segment 1B south: Widen from existing 2-lanes to 4-lane divided arterial, and add bike lanes; I-580 to Pennsylvania on Garrard

Del Norte BART Station access capacity enhancement: Widen from 4 to 6 lanes; Portrero to Cutting at San Pablo Avenue

I-80 Bikeway Corridor: Develop continuous bikeways and other bicycle facilities parallel to I-80

TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN

The RTP includes categories for funding such projects; future prioritization efforts will be required to determine timing

Northbound HOV lanes on I-80: Add northbound HOV lane; Willow Road to Carquinez Bridge

Upgrade Cummings Skyway/I-80 inter-

change: Improve and modify interchange

Expand express bus service on I-80: Expand express bus service on I-80 from Solano County to Richmond, Berkeley and Oakland

AC Transit Capital shortfall: Fund capital shortfall to maintain system; AC Transit service area (a portion remains unfunded)

Richmond Transit Village: Construct new pedestrian plaza including reconstruction of walkway entering station on west side, and new multi-level parking facility; at Richmond intermodal station

Parking at El Cerrito BART Station: Build a new parking facility and bus circulation improvements; at El Cerrito BART station (Note: *funding for this Measure C project may be reallocated to other projects that support BART access in corridor*)

Appian Way widening: Widen by 2 lanes; San Pablo Dam Road to I-80

San Pablo Avenue Intersection Improvements: Intersection improvements; at Appian Way

Bicycle Lanes on San Pablo Avenue: Extend bicycle lanes where feasible; entire length in county

San Pablo Bus Rapid Transit: New passenger stations, information kiosks, improvements to geometrics, increased bus service

Arterial Improvements: Includes widening Key Blvd., 23rd St., Valley View Rd., Rheem Blvd., Tennent Ave., San Pablo Dam Rd. and Willow Ave.; reconstructing Parker Ave. and San Pablo Ave.; and extending Hilltop Dr. and Meeker Ave.

Bikeway Projects: Includes bike projects along SR 4 Expressway, Cutting Blvd. Corridor Bikeways, Bay Trail segments, completion of San Francisco Bay Trail, and bicycle lanes on San Pablo Dam Road

OTHER FUTURE PROJECTS

Projects that area not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds

BART Extension West County: Extend BART from Richmond Station to Hilltop

BART Extension West County: Phase 2: Extend BART from Hilltop to Hercules

I-80/SR 4 West Interchange: Construct grade-separated freeway-to-freeway connectors

Reconstruct San Pablo Dam Road/I-80 interchange: Upgrade and improve interchange, including provisions for bicyclists on I-80 Bikeway and pedestrians on San Pablo Dam Road

San Pablo Avenue Smart Corridor Project: Operational improvements, signage, metering, incident management; downtown Oakland to SR 4 (Hercules)

Interchange at San Pablo Avenue: Construct interchange to eliminate existing at-grade signalized intersection; Richmond Parkway at San Pablo Avenue

Increase Ferry Service on Richmond line: Double current service, and improve station amenities including parking; Richmond to San Francisco

Hercules Intermodal Train Station: Construct Capitol Corridor Intermodal train station in City of Hercules

Commuter train service: Add additional round trip service on Capitol Corridor; in Contra Costa Co. along I-80 corridor

Light Rail to Hilltop Mall: Replace bus service on San Pablo Avenue with a light rail line; county line to Hilltop

Expanded Transit Service on San Pablo Dam Road: Increase frequency and improve coordination of service along San Pablo Dam Road, including service to BART stations

TRANSPORTATION STUDIES

Various studies that, although not listed in Track 1, could be conducted within the next 20 years

Ferry Upgrade Study: Study new ferry services originating from Rodeo or Hercules

San Pablo Dam Road HOV Facilities Needs Study: Investigate need for facilities to support greater use of carpools and vanpools within the corridor

North Richmond Truck Access Study: Identify facilities to provide access for trucks between the Richmond Parkway and adjoining industrial uses and minimize the impacts of truck access on adjoining neighborhoods

other points in Central County. WestCAT's Martinez Link service provides this connection but will need continuing support for its maintenance or expansion from the current hourly service.

APPROACH FOR STATE ROUTE 4 WEST

In the approach for this corridor, the Plan focuses on improving efficiency and operations, especially for freight movement, and expanded transit service. The SR 4 gap closure will significantly improve traffic flow and safety for travel through the corridor. This project should accommodate forecast vehicle traffic at least over the 20 years, if not further, into the future.

The approach, however, focuses on providing facilities that support freight movement and transit service. These include truck-climbing lanes on Cummings Skyway, which will provide improved traffic movement on that roadway, and the construction of new freeway-to-freeway connectors at the interchange of SR 4 with I-80. The vision also supports the continuation of bus service between West County and Martinez as well as the expansion of service on the Capitol Corridor, which parallels SR 4.

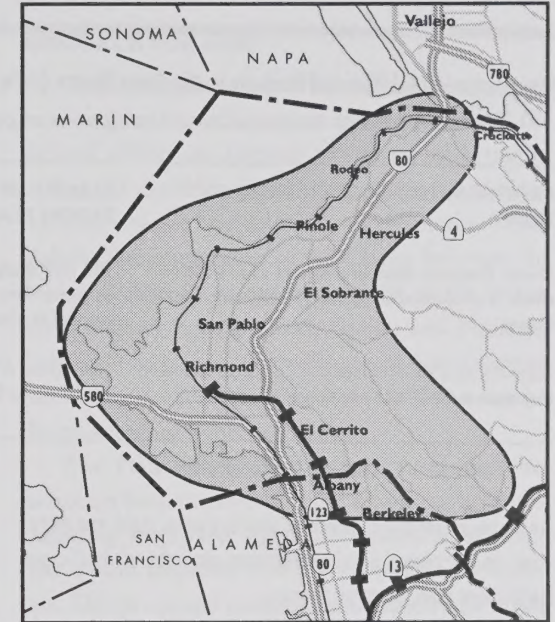
SUMMARY OF PROPOSED PROJECTS AND PROGRAMS

The following table lists the programs and projects proposed for the State Route 4 West corridor.

Interstate 680

Interstate 680 and the arterial roadways that parallel it represent the major north-south route through Contra Costa. These roadways link Central County and the Tri-Valley as well as Solano County to the north across the Benicia-Martinez Bridge and Alameda and Santa Clara counties to the south across the Sunol Grade. I-680 is paralleled by two sets of connected arterials: Pacheco Boulevard-Contra Costa Boulevard-North Main Street north of Walnut Creek and Danville Boulevard-Hartz Avenue-San Ramon Valley Boulevard to the south. By providing essential facilities for local traffic movement in the communities that adjoin I-680, these parallel facilities support the operation of the freeway.

Central County and the San Ramon Valley form two concentrations of urban development at the north and south ends of the corridor. Although built around older communities — Martinez was incorporated in 1876, Concord in 1905 and Walnut Creek nine years later; unincorporated settlements were also to be found in Alamo, Danville and Pacheco before World War II — these areas boomed first in population and then jobs starting in the 1950s. The opening of the Caldecott Tunnel encouraged commuting to the East Bay and San Francisco from the Central County, which developed earlier than communities to the south. The completion of I-680 and I-580 encouraged the development of San Ramon and Dublin (both of which, along with Danville, incorporated in the early



1980s) and other areas in the Tri-Valley.

ISSUES FACING THE CORRIDOR

Despite the extensive development that has occurred in the corridor over the last half-century, considerable additional growth is forecast in Central County and Tri-Valley. While forecasts suggest that the corridor will have a rough balance between jobs and employed residents, it is bordered by a housing-rich area to the north and east and a job-rich area (aka Silicon Valley) to the south. These two factors will lead to a growth in commuting from and through the I-680 corridor. As noted in Chapter 2, volumes

Programmed and Planned Projects in the State Route 4 West Corridor

This table outlines key projects and categories of projects for the State Route 4 West corridor. See Appendices for detailed list of projects.

PROGRAMMED/UNDER CONSTRUCTION	TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN	OTHER FUTURE PROJECTS	
<i>Note: Projects that are under construction show a projected completion date in parentheses</i>	<i>The RTP includes categories for funding such projects; future prioritization efforts will be required to determine timing</i>	<i>Projects that are not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds</i>	
State Route 4 West Phase 1 Construct 4-lane expressway; I-80 to Cummings Skyway	State Route 4 West Phase 2 Construct full freeway; I-80 to Cummings Skyway	Cummings Skyway Truck Climbing Lane Build truck climbing lane on eastbound Cummings Skyway to allow faster moving vehicles to safely	pass slow moving trucks climbing existing 10% grade; I-80/West County east past the summit east of Crockett Blvd. Pinole Valley Road Turn Lane Add two-way left turn lane; Pinole Valley Road between I-80/West County and Henry

have increased 40 percent since 1990, and are forecast to increase again between one-third and one-half over the next 20 years.

The corridor serves several commutes, not only the commute south from Solano County and Central County to the San Ramon Valley and beyond. In addition, a portion of I-680 serves commuters that travel from the east and commuters from Central County who travel west on SR 24 or BART.

This convergence of commute patterns makes the section between SR 242 and SR 24 one of the parts of I-680 with the highest volumes. In 1999, Caltrans found that the section of I-680 between SR 24 and SR 242 had, carried an average of 215,000 trips per day. Volumes on this section may reach above the 300,000-per-day mark by 2020.

Forecasts suggest that the commute on the section south of the interchange with SR 24 will also grow. The recent completion of work on the inter-

change of I-680 with State Route 24 removed a significant bottleneck. One effect of this improvement, however, was to move congestion south to the section between Livorna and Sycamore Valley Road. Preliminary forecasts conducted as part of the Arterial and Freeway Ramp Metering Study on I-680 suggest that this bottleneck will continue to grow in the future.

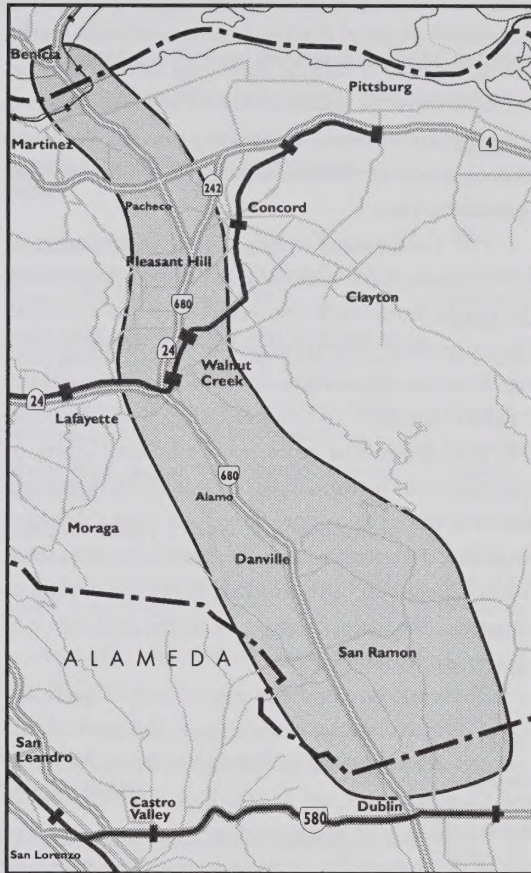
This bottleneck occurs where the freeway changes from six mixed-flow lanes north of Livorna to six mixed-flow lanes plus two HOV lanes south. The bottlenecks occur where the HOV lanes begin and end, indicating their role in helping improve the flow of traffic on I-680. According to Caltrans, the HOV lanes carry about 24 percent of the people traveling on I-680 southbound in the morning peak hour and 33 percent of the people traveling northbound in the afternoon peak hour.¹

High-occupancy vehicle lanes are also proposed

for part of I-680 north of SR 24. These lanes, which would run from the Benicia-Martinez Bridge south to North Main Street in Walnut Creek, will provide additional travel time savings for carpools and express buses in the corridor and should reduce potential congestion in the corridor. These new HOV lanes could be connected to SR 4 by a new collector-distributor structure. In addition, proposed auxiliary lanes between Diablo Road and Bollinger Canyon Road south of SR 24 will also improve traffic flow.

Expanding supply beyond these identified projects may, however, be difficult. Much of the area adjoining the freeway is developed or at the edge of

¹ Caltrans 1999 hov Report, Dec. 1999, pp. 76–79. Violation rates are reported at 3.4 percent southbound in the morning and 4.7 percent northbound in the evening.



a steep hillside. Capacity expansion that needs new right-of-way will be expensive, perhaps prohibitively so. In addition, some communities adjoining the freeway may oppose widening I-680 based on their concerns that the increased traffic a wider freeway would allow could increase noise and air pollution and visual impacts.

Widening parallel arterials also face obstacles. While these roads serve to some extent as reliever routes for commuters that would otherwise use I-680, they are also essential for access to land uses that border those arterials. In addition, widening those roads would require, in many cases, purchase and destruction of homes and commercial buildings, raising costs and increasing impacts on the communities.

Express bus service has had some success in serving the commute through the corridor. Benicia Transit has service to BART stations in Central County, and the County Connection has service to job centers in San Ramon and Pleasanton and to the Dublin/Pleasanton BART and ACE stations.

Finally, the Iron Horse Trail provides excellent opportunities for people to commute by bicycle through the corridor. This trail, built on former rail right-of-way, provides both a level pathway separated from auto traffic and direct access to many of the key employment centers in the corridor, including western Concord, the Pleasant Hill BART station, Walnut Creek, and Bishop Ranch.

APPROACH FOR I-680

The Plan recognizes both the significant forecast increases in travel demand in the corridor and the limited ability to expand the physical capacity within the corridor. To address these constraints, the Plan stresses operational improvements. These include the completion of HOV lanes between the Benicia-Martinez Bridge and North Main Street, new auxiliary lanes between Diablo and Bollinger Canyon Roads, and support for expanded express bus service and carpool use that take advantage of the existing and new HOV lanes.

The Plan also supports operational improvements on both the freeway and adjoining arterials, including improved signal coordination systems, that would improve traffic flow within the corridor. The proposed congestion management study for I-680 from the Benicia-Martinez Bridge to I-580 will look at possible strategies and proposed a program of coordinated actions to manage congestion and improve mobility in the corridor.

Finally, the Plan supports the completion of improved bicycle and pedestrian connections within the corridor. One key improved connection is the completion of gaps in the Iron Horse Trail and the addition of separated or otherwise improved crossings at major streets.

SUMMARY OF PROPOSED PROJECTS AND PROGRAMS

The table on the following pages identifies proposed projects and programs within the I-680 corridor.

State Route 24

The State Route 24 corridor contains the commute and local traffic within and through the Lamorinda communities east of the Oakland-Berkeley Hills. State Route 24 was the major commute corridor in the early days of the suburban development of Lamorinda and Central County, providing the key route to employment in Oakland, Berkeley and San Francisco. While other corridors now rival or exceed it in size, it remains one of the major commutes within Contra Costa, carrying some of the heaviest traffic volumes of any freeway. The continued concentration of jobs in Alameda County and San Francisco ensures that this commute will remain important.

State Route 24 runs from the Caldecott Tunnel east to I-680. The Colma/Bay Point BART line runs within the middle of the SR 24 right-of-way for most its length in Contra Costa. No single roadway runs the length of the freeway corridor although roads like Olympic Boulevard and Mount Diablo Boulevard run along parts of State Route 24. BART, however, provides an alternative to the freeway. The recently completed extension of BART to Bay Point serves additional trips that would otherwise take State Route 24. There is no bus service

connecting Alameda and Contra Costa Counties through the Caldecott Tunnel.

ISSUES FACING THE CORRIDOR

While the surrounding Lamorinda communities are expected to add relatively few new households and jobs over the next 20 years, the areas that feed the commute through the corridor are. The Lamorinda communities are expected to have eight percent more households and 16 percent more jobs in 2020. Contra Costa, however, will have 24 percent more households and 40 percent more jobs, increases that are two to three times greater than in Lamorinda. In addition, both San Francisco and the Oakland-Berkeley areas are forecast to have significant increases in jobs, which will attract additional commuters through the corridor.

While the traditional commute to jobs in San Francisco and the East Bay will grow, the so-called reverse commute from there to jobs in Contra Costa will grow even faster. This reverse commute, however, will remain smaller than the peak direction commute. Because the Caldecott Tunnel allows only two lanes of travel in the non-peak direction, average per-vehicle delay for the reverse commute will grow faster than in the peak direction.

Caltrans has estimated that average daily traffic through the tunnel grew only ten percent in the past ten years. According to MTC, this pattern of roughly ten percent growth per decade will continue through 2020. This relatively slow rate of growth would not be an issue were it not for the

fact that the tunnel is already saturated with traffic during the peak commute hour. Any further increase in traffic must be accommodated around the peak hour (before or after), suggesting that the duration of congestion at the tunnel will continue to spread as traffic grows.

The Caldecott Tunnel, which is made up of three tunnels, each with two travel lanes, represents the major bottleneck for vehicles in the corridor. The center bore is reversible, with Caltrans switching direction depending on the direction with the greatest demand. In the peak direction, the freeway goes from four lanes (plus auxiliary lanes) to four through the tunnel. In the non-peak direction, however, the freeway goes from four lanes (plus auxiliary lanes) to two through the tunnel. Because there is less capacity in the non-peak or reverse commute direction, the same increase in traffic will result in greater increases in delay.

The existing roadway experiences significant congestion currently, especially in the peak direction. Many segments of SR 24, in both Alameda and Contra Costa, are at LOS E or F westbound in the morning and eastbound in the afternoon, not just at the tunnel. Congestion is spread more evenly along the length of the corridor in the morning, however, while the congestion is primarily the result of queues at the tunnel in the afternoon. (The congestion in the non-peak direction is focused almost exclusively at the tunnel.)

BART ridership in the corridor is considerable, representing about 40 percent of the person-trips during commute periods. This high transit rider-

Programmed and Planned Projects in the I-680 Corridor

This table outlines key projects and categories of projects for the I-680 corridor. See Appendices for detailed list of projects.

PROGRAMMED/UNDER CONSTRUCTION

Iron Horse Trail: Construct Class 1 bike facility along entire length of Iron Horse Trail; from Pleasant Hill BART station to SR 4

I-680 HOV Lanes: Provide new HOV lane on I-680 northbound from SR 242 to the Marina Vista interchange and southbound from the Marina Vista interchange to North Main Street, including SR 4/I-680 I/C improvements

Taylor Blvd. Signal interconnect: Interconnect signal; at Contra Costa Blvd.

I-680 Auxiliary Lanes, Diablo Road to Bollinger Canyon Road: Construct additional 12-foot lanes, both northbound and southbound, between interchanges, retaining walls, and new soundwalls, and structure widening over Laurel Dr.; Diablo Rd. to Bollinger Canyon Rd.

TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN

The RTP includes categories for funding some projects; future prioritization efforts will be required to determine timing

Pacheco Boulevard Widening: Widen road to 4 lanes; Blum Rd. to Morello

Pleasant Hill Road-Taylor Boulevard Realignment: Realign existing reversing curves; NB Pleasant Hill Rd. at its separation with Taylor Blvd.

Pleasant Hill Road/Taylor Blvd. Improve-

ments: Improve roadway and interconnect signal; within Pleasant Hill

Freeway Service Patrol: Roving tow trucks; I-680

TOS on I-680: Traffic Operations System including changeable message signs, loop detectors, video; SR 24 to Benicia Bridge

Martinez Intermodal Project: New train station, access, parking and trail connections; Downtown Martinez

Interchange at Alcosta/I-680: Modify interchange, add SB on-off hook ramp north of Alcosta tying into San Ramon Blvd., and eliminate SB diamond interchange movements

Bollinger Canyon Road Widening: Widen from 6 to 8 lanes; I-680 to Camino Ramon; and widen from 4 lanes to 6-lane divided arterial; Alcosta Blvd. to eastern San Ramon City limits

Dougherty Road widening: Widen from 6 to 8 lanes, Dublin Blvd. to I-580; to 6 lanes, county line to Dublin Blvd.; and from 8 lanes, from I-580 to Dublin Blvd.

Additional Arterial Improvements: Includes widening of Camino Tassajara south of Windermere Pkwy., Arthur Rd., Geary Rd., and Fallon Rd.; realignment of Pacheco Blvd. and Camino Tassajara north of Windermere Pkwy.; Contra Costa Blvd. gap closure; extension of Commerce Ave.; and improvements to Crow Canyon Road

Intersection Improvements: At Danville Blvd./Stone Valley Rd. and San Ramon Valley Blvd./Hartz Ave.

Interchange Improvements: Includes reconstruction Marina Vista; new ramps at El Pintado; and new I/C at West Las Positas

Bicycle and Pedestrian Projects: Includes completion of Iron Horse Trail from Alameda County to Benicia; Pleasant Hill Road pedestrian improvements; and Iron Horse Trail overcrossings at Sycamore Valley Rd. and Bollinger Canyon Rd.

Intersection Improvements: Includes Sunset, Camino Ramon, Alcosta on Bollinger Canyon Road, and southbound off-ramp; I-680 at Crow Canyon Road

OTHER FUTURE PROJECTS

Projects that area not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds

I-680/SR 4 Interchange: Upgrade interchange to provide direct connectors between SR 4 and I-680 (works with SR 4 East gap closure project on SR 4 in Central County)

Various signal and operational projects: Includes I-680 Smart Corridor; Central Contra Costa TMC and signal projects on Pacheco Blvd., Clayton Road, and Alhambra Ave.

Bus Transit Coordinating Council: Express bus services: Double existing services and add new services from Concord, Martinez, and Walnut Creek to Hacienda and Bishop Business parks, San Ramon, Danville, and Dougherty Valley

Martinez Intermodal Project: Ferry service Institute ferry service to SF with landside improvements, ferry boats and operations; Martinez to San Francisco

Rudgear Rd. Park-and-Ride Lot: Add ap-

proximately 60 spaces; Rudgear Rd. at I-680

HOV lanes on I-680 Add NB and SB HOV lanes; from Alcosta Blvd. to SR 84 in Alameda County

Express Bus Service: Add or expand service: (1) Santa Clara Co. to Pleasanton, (2) Hayward to San Ramon, (3) Santa Clara Co. to San Ramon, (4) Fremont to San Ramon, (5) Brentwood to Pleasanton, (6) Brentwood to Livermore, (7) Fremont to Livermore, (8) Hayward to Pleasanton, (9) Hayward to Livermore

Parking garage: Construct 242-space garage; Downtown Martinez

TRANSPORTATION STUDIES

Various studies that, although not listed in Track 1, could be conducted within the next 20 years

Comprehensive I-680 Corridor Study: Evaluate strategies for managing traffic congestion and recommend a comprehensive traffic management approach; Benicia-Martinez Bridge to I-580

ship results from several factors. The service is frequent and avoids the delays that vehicles experience on SR 24 and at the Bay Bridge. BART takes riders to locations with dense concentrations of jobs (downtown San Francisco and Oakland) that are within walking distance from the BART stations. And finally, by riding BART, commuters avoid the tolls and parking costs in San Francisco and Oakland.

The key issue facing the corridor is how to respond to the growing commute demand given the constraints at the Caldecott Tunnel. MTC, in conjunction with the Authority, the Alameda County CMA, and local jurisdictions and transit operators, is studying potential operational improvements within the corridor, including, but clearly not limited to, the construction of a fourth bore. The study is also looking at operational strategies including ramp metering, HOV bypass lanes, relocation of merges onto the highway, and modified or expanded transit service.

APPROACH FOR STATE ROUTE 24

State Route 24 is today, and will remain in 2020, one of the most heavily traveled corridors in the county. The physical constraints of the Caldecott Tunnel at the west end of the corridor will limit the ability to reduce congestion — or even maintain current levels of service — without capacity or major operational improvements. Although completion of the I-680/State Route 24 interchange improvements removed a major bottleneck, its completion also

moved congestion closer to the tunnel, worsening morning congestion along the corridor.

The approach for State Route 24 and the Caldecott Tunnel thus looks to alternative ways of addressing growing congestion in the corridor. These steps include encouraging the use of transit and carpools through the development of new park-and-ride lots countywide, and expanding bus service to HOV stations. The vision for this corridor also includes operational improvements to ramps and local streets and the expansion of TDM efforts to improve efficiency and manage demand.

SUMMARY OF PROPOSED PROJECTS AND PROGRAMS

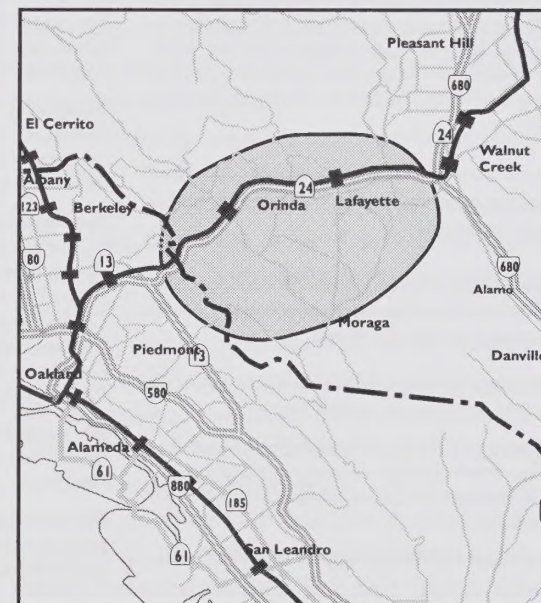
The table on the preceding page identifies proposed projects and programs within the SR 24 corridor.

State Route 4 Central/East

The State Route 4 Central/East corridor is made up of a broad set of roadways and transit facilities that serve travel from I-680 in the west through Central and East County and then south to the Tri-Valley and San Joaquin County. These facilities include State Route 4 itself, a divided freeway from I-680 east through Concord, Pittsburg, and Antioch, and a two-lane roadway through Oakley and Brentwood. State Route 242, currently being widened to three lanes in each direction, provides a more direct connection from SR 4 for travelers going south on I-680. In addition, the new Pittsburg/

Bay Point BART line provides new service to East County. In addition, the corridor includes a number of important arterials, including the Ygnacio Valley Road-Kirker Pass Road-Railroad Avenue connection between Walnut Creek and Pittsburg; the Vasco Road-Walnut Boulevard connection from Brentwood and Livermore; the arterials such as Leland Avenue, the Pittsburg-Antioch Highway and others paralleling SR 4 in East County.

This corridor serves one of the fastest-growing commutes in the Bay Area. This increasing demand derives from the considerable residential growth in East County, with corresponding job growth in Central County, the Tri-Valley and other locations to



the south and west. New residents, looking for affordable housing in the high-priced Bay Area market, have swelled the population of East County. These residents, however, must still travel west (and sometimes south) to work, enduring an increasingly congested and lengthy trip.

ISSUES FACING THE CORRIDOR

Demand on the State Route 4 corridor, already high, is forecast to increase over the next 20 years, spurred by substantial increases in households in both Central and East County. Together, these two regions of the county are forecast to add 87,000 new employed residents and 82,000 new jobs. About three of every four new workers, however, will live in East County while jobs are expected to be more

evenly distributed between the two areas. This imbalance will require residents to commute out of the area in even greater numbers, placing even greater demands on the transportation system.

SR 4 is one of the more congested freeways in Contra Costa. Caltrans identified the section of SR 4 between from Lone Tree to Railroad in the morning and Bailey to Loveridge in the afternoon and the key congestion points, although there is also congestion for trips across Willow Pass. The growth in East County will lead to increases in demand on SR 4. Our models forecast that the daily volume of traffic on the highway will increase between 60 and 75 percent, depending on the segment.

This congestion is leading to diversion onto parallel arterials, including Leland-Delta Fair, the Pittsburg-Antioch Highway and Buchanan Road in

East County and Kirker Pass-Ygnacio Valley Roads in Central County. In addition, a number of gaps remain, including lanes between I-680 and SR 24 and an HOV connection between the planned lanes on I-680 and the programmed lanes on SR 4 East.

Significant improvements are planned or under construction on State Route 4 East. The freeway was widened and BART added in the median from Central County to Bailey Road earlier and a widening from two to four lanes, including HOV lanes, is under construction east to Railroad Avenue. The Authority and other agencies are proposing the widening of State Route further east to SR 160 and the State Route 4 Bypass. The Bypass will also add significant capacity in the corridor. This proposed four-lane freeway, which will run west of Oakley and Brentwood, will provide an al-

Programmed and Planned Projects in the State Route 24 Corridor

This table outlines key projects and categories of projects for the State Route 24 corridor. See Appendices for detailed list of projects.

PROGRAMMED/UNDER CONSTRUCTION

Note: Projects that are under construction show a projected completion date in parentheses

State Route 24 Auxiliary Lane: Provide an auxiliary lane between the Gateway Boulevard and Camino Pablo interchanges, primarily through restriping of existing lanes and shoulders; and relocate bike path to south of SR 24, ending on Brookwood; Gateway Blvd. to Camino Pablo

Deer Hill Rd.: Modify westbound on/off ramp, install new signal at Deer Hill, and interconnect signal at Deer Hill and 1st St.

TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN

† *The RTP includes categories for funding such projects; future prioritization efforts will be required to determine timing*

Brookwood Rd.: Widen eastbound off-ramp; install new signal; Brookwood Rd. at SR 24

Orinda carpool lots and bus centers: Orinda carpool lots and bus centers; in city of Orinda

OTHER FUTURE PROJECTS

Projects that area not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds

Caldecott Tunnel System Continuity Project (Reverse Direction 4th Bore): Construct fourth bore for Caldecott Tunnel (cross-section to be determined)

Signal coordination for San Pablo Dam Road/Camino Pablo: Coordinate and time signals on Camino Pablo between Bear Creek and Brookwood and on San Pablo Dam Road

Camino Pablo reconstruction: Road reconstruction; Miner Rd. to Bear Creek Rd.

BART ADA access: Add pedestrian/wheelchair access to south entrance of station; at the Lafayette BART station

ternative to the two-lane portions of SR 4 and other arterials in East County. The Bypass is being developed in phases, first as a two-lane expressway, with later expansion to a full freeway with interchanges at key arterials.

These improvements to State Route 4 and the Bypass will, however, primarily serve the commute to the west. Many commuters, especially those trav-

eling to jobs in the Tri-Valley or from homes in the Central Valley to jobs in East or Central County, would prefer a more direct route to and from the south or southeast. In addition, truckers looking for more direct or less congested routes into Contra Costa have begun using Byron Highway and State Route 4 more frequently. Currently, only Vasco Road and the Byron Highway serve travel to and

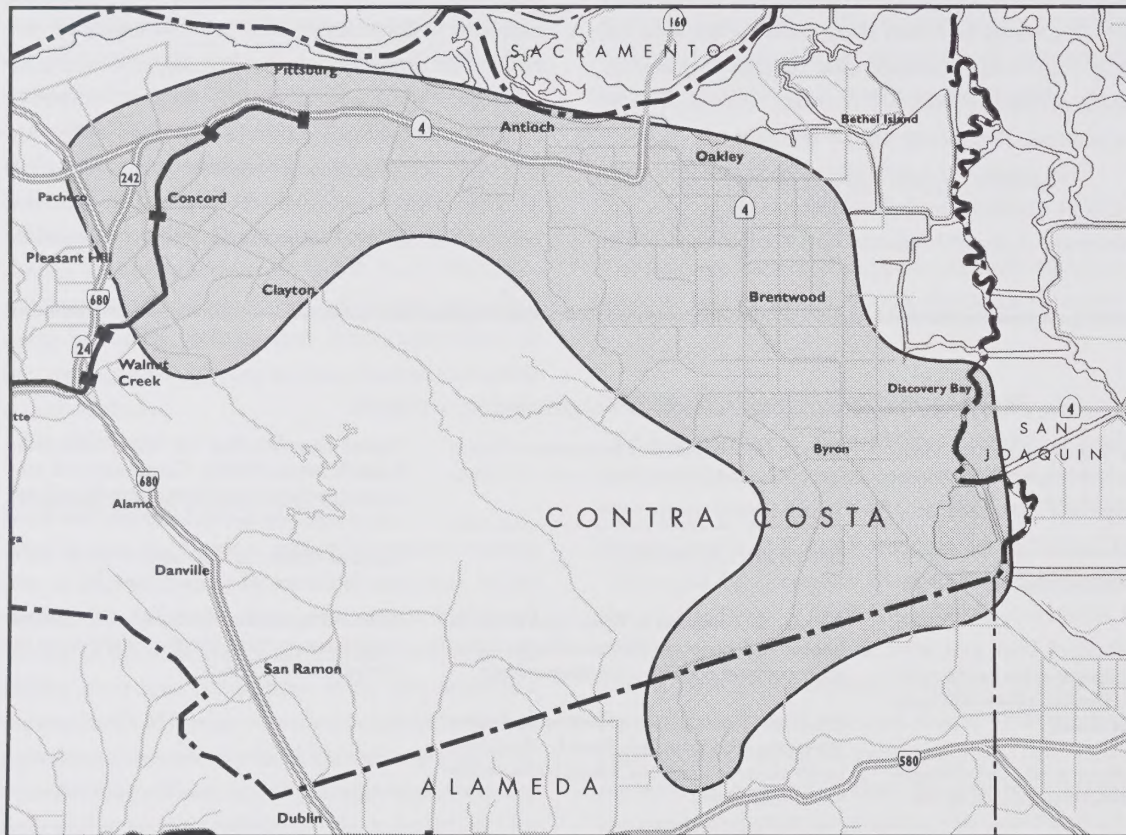
from the south or southeast, both of which are developed as two-lane rural highways and not as high-volume commute or truck routes. Also, Caltrans does not plan to widen SR 4 east from Byron to San Joaquin County.

APPROACH FOR STATE ROUTE 4 CENTRAL/EAST

Given the significant existing travel demand within the State Route 4 corridor and the continued growth in this demand forecast, the vision for State Route 4 East emphasizes the creation of a transportation that ensures the smooth flow of traffic through the corridor. This vision relies on a balance between roadway capacity increases, on the one hand, and improvements to system operations and alternative travel modes, on the other. In addition, the Action Plan supports a strategy of economic development in East County. Action 15 supports the creation of job centers that take advantage of excess roadway capacity in the reverse direction.

Because of the nature of demand within Central and East County, the Plan proposes extensive increases in capacity to State Route 4 and the creation of the State Route 4 Bypass. These improvements will, when completed, provide a coordinated set of roadways that can carry the significantly higher levels of traffic forecast within the corridor and lessen diversion to adjoining arterials.

Freeway capacity increases, however, will address all issues within the corridor. The Plan thus tries to balance increases in freeway capacity with other improvements. These include the extension



of HOV and park-and-ride lots, increases in arterial capacity, operational improvements, new or expanded bicycle and pedestrian facilities, and transit.

The vision sees an increase in vehicle occupancy essential for achieving the East County Action Plan's TSO of a delay index of 2.5 for State Route 4. The Plan thus includes HOV lanes and park-and-ride lots throughout the corridor as well as the expansion of express bus service and the creation of new commuter rail service to link East County to both the west and southeast. This new service would connect commuters to BART to the west and the ACE train that connects the Central and Silicon Valleys.

To support improved goods movement and connections to the Central Valley and the Tri-Valley, the East County Action Plan also supports the design and development of SR 239, a long-planned highway connection to the southeast.

Operational improvements to parallel arterials will include arterial management systems that can improve traffic flow that complement operations on State Route 4 while balancing the needs of cross-traffic. Transit service on these routes can also be improved through signal preemption, real-time traveler information, and automatic vehicle locator systems.

The completion of gaps in the bicycle and pedestrian systems will allow commuters an alternative to the automobile to access both transit and key activity centers within Central and East counties.

SUMMARY OF PROPOSED PROJECTS AND PROGRAMS

The table on the following page lists projects and programs within the State Route 4 East corridor.

Interstate 580/Tri-Valley

Bordered by the East Bay Hills, south of Mt. Diablo, and west of the Central Valley, the Tri-Valley (like East County) has grown from a primarily agricultural area at the end of World War II to one of the key urban centers of job and housing growth in the Bay Area. With this growth, the demands on the transportation system have grown apace.

The I-580 corridor has become one of the most important in the Bay Area. Interstate 580 itself carries traffic from the Central Valley to and through the Tri-Valley and then west to Oakland and the East Bay or on I-680 south to the Silicon Valley. As the primary connector between the Bay Area's ports and businesses and the other markets in California and the nation, I-580 has become the preeminent truck route in the Bay Area, carrying more trucks each day than any other roadway.

Over the last 40 years, the Tri-Valley has made the transition from bedroom community to job center. The development of Bishop Ranch and the Hacienda Business Park, among others, has brought significant numbers of new jobs to the area. This transition has meant that the area now not only generates commutes trips from Tri-Valley but also attracts them from other parts of the Bay Area and,

increasingly, the Central Valley.

ISSUES FACING THE CORRIDOR

Over the next 20 years, the jurisdictions in the Tri-Valley will add about 46,000 new households, 84,000 new resident workers, and 85,000 new jobs, more than any other corridor. Not surprisingly, these new households, workers and jobs will lead to substantial increases in traffic. What makes it worse, however, is the development that is occurring in other parts of the Bay Area and Central Valley.

The Tri-Valley has reached — and is expected to maintain — a balance between jobs and employed residents. Adjoining areas, however, have not. The Silicon Valley, directly southwest over the Sunol Grade from the Tri-Valley, is in the middle of a job boom creating many more jobs than housing units for those workers to fill them. Those new workers are forced to look to other areas, including the Tri-Valley for places to live. While the Tri-Valley is indeed home for many Silicon Valley workers — around ten percent work in Silicon Valley — many others workers live east in the Central Valley or north in other parts of Contra Costa.

The combination of these factors has led to substantial increases in demand on the area's roadways. In only two years, for example, the increase in demand on I-680 at the Sunol Grade moved it to number one congested location in the Bay Area. While the Sunol Grade is the most noted "choke point" in the Tri-Valley, I-580 also undergoes significant congestion in the morning from Vasco Road to El

Programmed and Planned Projects in the State Route 4 Central/East Corridor

This table outlines key projects and categories of projects for the State Route 4 Central/East corridor. See Appendices for detailed list of projects.

PROGRAMMED/UNDER CONSTRUCTION

Note: Projects that are under construction show a projected completion date in parentheses

State Route 4/Railroad Avenue Interchange: Reconstruct to provide 8-through lanes as well as 44–60-foot median for future BART extension

Clayton Road/SR 242 Interchange: New NB on-ramp

State Route 4 East-Railroad through Loveridge: Widen to 6 mixed flow lanes + 2 HOV with median space for BART; Railroad through Loveridge

SR 4/Loveridge Interchange: Reconstruct interchange to provide eight through lanes on SR 4 and a 44 foot median for future BART extension; SR 4-Loveridge interchange

State Route 4 Bypass – Phase 1 of Segments 1 and 3: Construct 4-lane expressway to SR160 to Lone Tree Way (segment 1), with interchanges at Laurel and Lone Tree Way and connectors to SR 160; and construct a 4-lane expressway from Balfour Rd. SR 4 (segment 3), with at-grade intersections at Sand Creek, Balfour and Marsh Creek

Widen Walnut Blvd.: Widen 2 to 4 lanes; within City of Brentwood

SR 4 East Corridor Traffic Signal Interconnect: Interconnect 50 signals on Leland, Delta Fair, Somersville, Bailey, Buchanan, Railroad and at freeway interchanges; Bailey Road to Hwy. 160

TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN

The RTP includes categories for funding such projects; future prioritization efforts will be required to determine timing

Panoramic Extension: Extend as 2-lane road from N. Concord BART to Willow Pass; in Concord (through Navel Weapons Station)

Modify Lone Tree Way Interchange: Interchange modification in Antioch

Modify Somersville/SR 4 Interchange: Widen to accommodate SR 4 widening

Widen Hillcrest SR 4 Interchange: Widen to accommodate 6 lanes + 2 HOV with BART in median, add a northbound to westbound on-ramp, and widen the eastbound exit to 2 lanes

State Route 4 East: Widen to 6 mixed flow lanes and reversible HOV lane; Loveridge to SR 160

State Route 4 Bypass - Segment 2 (Lone Tree Way to Balfour Road) (Phase 1): Construct 2 lane roadway to Walnut Blvd. and at grade intersection at Balfour, Sand Creek and Marsh Creek; tie in to Walnut Blvd. at grade intersection; construct 1 mile of Sand Creek Road east to Fairview; Lone Tree Way to Walnut Blvd.

Vasco Road safety improvements: Improve shoulders and straighten curves; Alameda Co. line to Livermore

SR 4 widening (non-freeway portion): Widen to 4 lanes; from Vintage Parkway in Oakley to 2nd Street in Brentwood and from Oak Street in Brentwood to Discovery Bay

Install traffic signal: Install traffic signal in downtown Oakley at O'Hara and Norcross intersections

Vasco Road/Camino Diablo intersection: Widen intersection; Vasco Road at Camino Diablo

Eastbound Right-Turn Lane on Lone Tree Way: Add eastbound right-turn lane on Lone Tree Way at Fairview; in City of Brentwood

Install Traffic Signal at Lone Tree Way/Empire Ave.: Install new traffic signal in City of Antioch

Widening of Lone Tree Way/Hillcrest Ave: Widening to 4 lanes

Install traffic signals at Leland/Dover and Leland/Chestnut: in City of Pittsburg

James Donlon Blvd. Extension: Extend as 4-lane road to Somersville Road; City of Antioch

Express bus service: Add or expand express bus commuter service using Byron Highway and Mountain House Road; Antioch, Oakley and Brentwood to Lawrence Livermore Labs; and extend service hours to midnight of major trunkline routes; Central and SR 4 East (Bus Transit Coordinating Council)

Arterial Improvements: Includes widening of W. Leland Rd, California Avenue, Ygnacio/Kirker Pass, Willow Pass Road, Deerwood Place, and Diablo Road; North Park Plaza connection to Century Blvd.; new waterfront truck route in Pittsburg; Railroad Avenue / Leland Road intersection improvements; construction of Street "A" connection; extension of W. Leland Road and Byron Rd.; Kirker Pass truck climbing lanes;

Various signal and operational projects: In-

cludes Central Contra Costa TMC and signal projects on Pacheco Blvd., Buchanan Rd., W. Leland Rd., Clayton Road, and Alhambra Ave. (Martinez)

Bicycle and Pedestrian Projects: Includes Delta-DeAnza bikeway project; completion of EBMUD trail; extension of Contra Costa Canal Trail and Marina Vista Bike lanes; Pacheco Blvd. widening and bicycle lanes; Buchanan and Loveridge Road bicycle lanes; and Court Street Bay Trail overcrossing

OTHER FUTURE PROJECTS

Projects that are not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds

State Route 4 East commuter rail: Commuter rail on on UP tracks from BART at Bay Point with stations at BART, Antioch and Brentwood, connecting with ACE service in Tracy, including construction of parking and station facilities

Extension of BART: from Bay Point to Railroad and Hillcrest

Widen SR 4: Add 2 mixed-flow lanes, one in each direction, from Pacheco Blvd. to Port Chicago Hwy.

SR 4 to I-680 HOV Lanes: Provide connection between programmed HOV lanes on SR 4 East and I-680, on SR 4 or SR 242

Extend SR 4 East HOV Lanes: Extend HOV lanes east from Loveridge to the SR 4 Bypass with room in the median for BART to Hillcrest

Freeway Improvements and Major New Roads: Includes third lane in each direction on

Programmed and Planned Projects in the State Route 4 Central/East Corridor (cont'd.)

SR 4 between SR 242 and I-680; HOV lanes between Loveridge and Hillcrest; upgrading SR 4 Bypass to full freeway; new Buchanan Bypass (ultimately a 4-lane, limited access bypass road; construction of new Standard Oil Avenue; and Range Road Overcrossing

Range Road Interchange at State Route 4: Construct a diamond interchange at this location to ease congestion at the Bailey Rd. and Railroad Avenue freeway interchanges (assumes a Range Rd. overcrossing is built first); SR 4 and Range Road

Transit Station, Intermodal Facility and Park-and-Ride Lot Development: Includes Pittsburg/Bay Point BART station development; park-and-ride lot at Railroad and SR 4; improved access for pedestrian and bicyclists at Pleasant Hill BART station; North Concord BART parking shuttle; expansion of parking and improvement of canopy lighting at Pittsburg/Bay Point

TRANSPORTATION STUDIES

Various studies that, although not listed in Track 1, could be conducted within the next 20 years

Route 239 Interregional Corridor Study: Major Corridor Study to consider scope, alignment, interconnections of Route 239 linking Brentwood and Tracy; Marsh Creek Road to Tracy

Charro and in the afternoon from Foothill Boulevard to El Charro.

The planned development of East Dublin and Dougherty Valley and the possible development of North Livermore as well as other projects within the Tri-Valley will place additional demands on I-580, I-680 south and parallel arterials.

Although efficiency improvements (such as HOV lanes) and expanded public transportation could be added in this corridor, little or no additional capacity for single-occupant vehicles is planned. The extension of BART to the East Dublin/Pleasanton station now carries a significant number of riders west to the East Bay. (The Plan also supports a further extension east to Livermore.) BART by itself will not address congestion problems on Altamont Pass, however. Congestion at this gateway has encouraged commuters to take alternatives, such as Patterson Pass Road, although there is a clear limit to the amount of traffic this road can carry. And

the steepness of Altamont Pass limits expansion as does limited funds.

One method for relieving traffic on I-580 is construction of parallel arterials or reliever routes. For example, as part of the development of areas north of I-580, local jurisdictions are working on completing Dublin Boulevard just north of I-580. Another key project proposed in the Tri-Valley is the SR84 project, which will provide an improved and shorter route from I-580 to I-680 just north of the Sunol Grade. This project is one of the priority projects in the Tri-Valley Traffic Development Fee program.

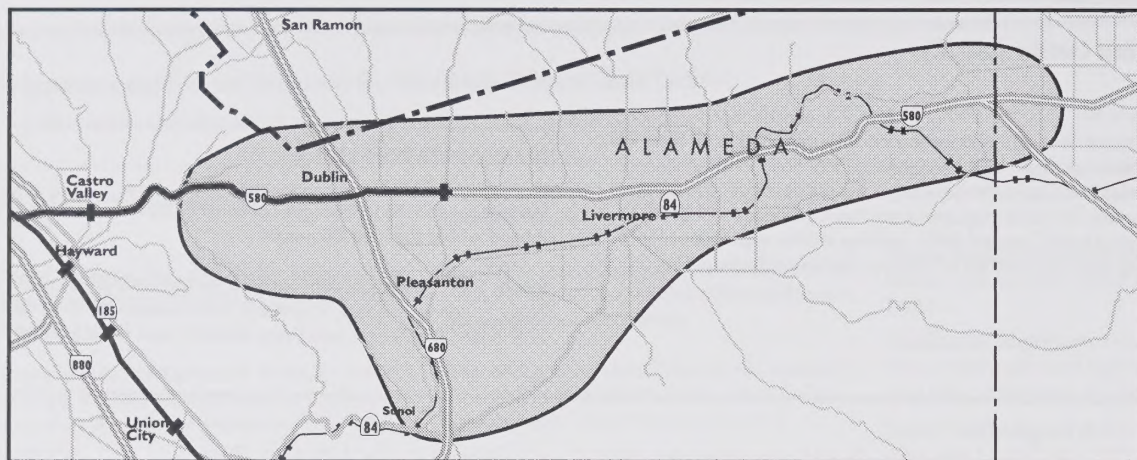
The Altamont Commuter Express rail service between the Central Valley and the Tri-Valley and East and South Bays has had real success in drawing commuters out of their cars. Planned HOV lanes on I-580 (and on I-680 south of I-580) could also increase the number of commuters carried in the corridor, especially if extended, as now planned,

all the way to the Altamont Pass.

Besides carrying growing numbers of commuters, the corridor also carries more trucks than any other corridor in the Bay Area. I-580 provides the most direct route from I-5 and the Central Valley to the Port of Oakland, Silicon Valley and other industrial and business sites than any other route. While truckers often shift their travel times to “shoulders” of the peak periods — that is, before the morning peak, after the evening peak or during mid-day — to avoid congestion, such a shift is not always possible. The presence of so many trucks places even greater demands on the freeway and encourages diversion to alternative routes such as Byron Highway.

APPROACH FOR STATE INTERSTATE 580

Like the Carquinez and Benicia-Martinez Bridges, the Altamont Pass is a major gateway for commut-



SUMMARY OF PROPOSED PROJECTS AND PROGRAMS

The following table lists projects and programs that are proposed to achieve the vision for the I-580/Tri-Valley corridor.

ers, in this case, from San Joaquin County into the Tri-Valley area and points beyond. The vision for the I-580-Altamont Pass Corridor does not call for widening I-580 over Altamont Pass. Instead, the 2000 Update recognizes that a constrained gateway will help moderate flows into the Tri-Valley and that, in any case, limited funds are available for widening I-580 at Altamont Pass.

Instead of expanding freeway capacity along I-580 and across the Altamont Pass, the Tri-Valley Plan focuses on other travel modes and operational improvements to address demand on I-580. Improvements to the I-580/I-680 interchange and to State Route 84 will improve overall traffic flow. Actions to encourage alternative travel modes include advocating HOV lanes on I-580, extending BART to Livermore, establishing a “smart corridor” ap-

proach in the corridor (including adaptive signal timing, transit priority systems, incident management and possibly ramp metering), and supporting other major investments in transit. To support these actions, the Plan also calls for a sub-regional fee — and possibly an increased gas tax — to fund these actions and other improvements and a cooperative growth management strategy.

The strategies in the Tri-Valley Plan are consistent with the development of the proposed SR 239 Interregional Corridor Study which will evaluate design strategies for constructing an expressway that links Brentwood and Tracy. This study is also consistent with the I-580/Altamont Pass Interregional Corridor Study which recommended such an expressway to provide an alternate route to I-580 for truck traffic into the East Bay.

Programmed and Planned Projects in the I-580/Tri-Valley Corridor

This table outlines key projects and categories of projects for the I-580/Tri-Valley corridor. See Appendices for detailed list of projects.

PROGRAMMED/UNDER CONSTRUCTION

Note: Projects that are under construction show a projected completion date in parentheses

HOV over Sunol Grade: SB only 2-person carpool lane; Sunol Grade, from SR 84 to Fremont

TRACK 1 OF THE REGIONAL TRANSPORTATION PLAN

HOV over Sunol Grade: NB HOV lane (2-person); Fremont to Rt. 84

Stanley Blvd./Isabel grade separation: Construct grade separation at intersection with Isabel Pkwy. as part of SR 84 project; Isabel at Stanley

Isabel Avenue widening and extension: Extend Isabel South to Vallecitos as 4 lane divided arterial; to Vineyard

Isabel Pkwy/Rt. 84 Interchange: Upgraded interchange at SR 84

OTHER FUTURE PROJECTS

Projects that are not in Track 1 but could be funded with revenues from a sales tax extension, regional gas tax or developer funds

Expansion of Wheels: Expand WHEELS service to reduce headways on trunklines and feeder services; Tri-Valley Area

HOV Lanes on I-580: Add HOV lanes East/West; Tassajara Road to E. of Vasco Rd.

Arterial Widening and Extension Projects: Includes Old Ranch Road, Jack London Pkwy., Tassajara Road, Hopyard Road, Stoneridge Drive, Sunol Blvd., West Las Positas Blvd., Hacienda Dr., Gleason Drive, Schaefer Ranch Rd., Collier Canyon Rd./Airway Blvd. Link, Concannon Blvd., Dalton Avenue, Las Positas Rd., North Canyons Pkwy., Portola Avenue, North Livermore Ave., Dublin Blvd., Isabel Avenue, Vasco Rd., and Bernal Ave.

I-580 HOV Lanes: HOV lanes to be built beyond 2010; E. of Vasco Road to County line

New or Improved Interchanges: Includes improvements at Isabel Avenue, Foothill, Vasco Rd., El Charro, N. Livermore Ave., 1st St., N. Greenville Rd., Hacienda Dr., and Santa Rita Rd.

Isabel Parkway/SR 84: Widen to divided freeway; I-580 to Vallecitos Rd.

BART extension to Livermore: Extend from East Dublin to Greenville in Livermore

West BART Dublin BART station: Construct new Dublin station



8 Implementation

The 2000 Update will play an important role in shaping our transportation policy and investment decisions. But how will the Plan be carried out? The Authority will need to work with many agencies to fund and prioritize the programs and projects that will work towards achieving our goals. In this chapter, we outline the strategies, the partnerships and the guidelines essential for a smooth transition from concept to reality.

Accomplishments

Since the adoption of Measure C over ten years ago, the Authority and its many partners have made considerable progress in achieving the objectives of the Measure.

- Funded \$475 million in projects and programs called for in the Measure, including the extension of BART to the Bay Point/Pittsburg station, the Richmond Parkway, the widening of State Route 4, the Martinez Intermodal Facility, and the improvement of arterial streets throughout Contra Costa;
- Provided \$36 million in operating funds for transit providers in Contra Costa;
- Returned \$75 million in sales tax revenues to local jurisdictions for the maintenance and improvement of local streets and roads;
- Established the Measure C Growth Management Program that requires local jurisdictions to adopt a growth management element, adopt a development mitigation program, participate in cooperative planning, develop a five-year capital improvement program, adopt a transportation demand management ordinance, and address the balance of jobs and housing opportunities with the community.
- Provided a process for cooperative multi-jurisdictional planning in Contra Costa and the Tri-Valley, including the Action Plans and the

countywide Comprehensive Transportation Plan;

- Established a Regional Transportation Mitigation Program that is expected to generate about \$350 million in funds for projects to reduce the impacts of new development in Contra Costa and the Tri-Valley;
- Created tools in the form of travel demand models and a land use database for use in regional and local planning;
- Served as a forum for discussing and resolving growth management and transportation issues affecting Contra Costa; and
- Worked as the voice for all of the jurisdictions and agencies in regional and state-wide processes and forums, including the State Transportation Improvement Program, the Bay Area Partnership and the Congestion Management Agency Association.

Who Must Be Involved?

Clearly, the Authority must take the lead and shoulder the burden of putting the strategies of the CTP into effect. Few of these strategies, however, can be effectively carrying out without the support and active participation of many other agencies. These different bodies will include the RTPCs, each local jurisdiction, transit providers, regional and State agencies, business and environmental groups, and the general public.

The following section describes how some of these different groups can help the Authority achieve the vision outlined in the 2000 Update.



REGIONAL TRANSPORTATION PLANNING COMMITTEES

As noted in the Introduction, the Authority works with four Regional Transportation Planning Committees, or RTPCS, to carry out its responsibilities for a cooperative planning process. These RTPCS, which include WCCTAC in West County, TRANSPAC in Central County, TRANSPLAN in East County and SWAT in Lamorinda and the San Ramon Valley, are made up of elected and appointed representatives from each jurisdiction within that region. Officials from transit agencies also serve on the RTPCS, either as voting or ex-officio members.

In addition to preparing and updating the Action Plans, the RTPCS play a vital role in various transportation planning activities. TRANSPLAN, TRANSPAC and SWAT, for example, are currently involved in the ramp metering study for I-680 and SR 4, while WCCTAC is working with Alameda County jurisdictions on the San Pablo Avenue SMART Corridor project.

THE METROPOLITAN TRANSPORTATION COMMISSION (MTC)

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordination and financing agency for the nine-county San Francisco Bay Area. Under State legislation, MTC is the region's transportation planning agency; it is also federally designated as the region's Metropolitan Planning Organization (MTO). In these roles, MTC

is responsible for the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

MTC has a 19-member board. Fourteen members are appointed directly by local elected officials, and two members represent regional agencies; three nonvoting members — from federal and State transportation agencies and the federal housing department — also serve on the board.

With passage of the 1991 Intermodal Transportation Efficiency Act (ISTEA), MTC's powers as the MPO for the Bay Area were expanded, allowing it to determine — for some funds — the mix of transportation projects best suited to meet the region's needs. To foster consensus in the implementation of ISTEA (and its successor, TEA-21), MTC created the Bay Area Partnership, a consortium of top-level managers from local, State and federal transportation agencies.

THE ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG)

While MTC is responsible for transportation planning in the Bay Area, the Association of Bay Area Governments, known by its acronym ABAG, is responsible for more general planning. ABAG was established in 1961 to protect local control, plan for the future, and promote cooperation on areawide issues.

One of its key responsibilities is the development of population and economic forecasts. ABAG's series of *Projections* estimate where and how much

growth may occur within the Bay Area. To maintain consistency with State law, the Authority incorporates these projections for its computer modeling.

The General Assembly is the overall governing body of the organization. Each member city and county designates a representative. An Executive Board composed of 38 elected officials from member cities and counties directs ABAG's operations. Much of ABAG's work is carried on by committees appointed by the Executive Board, including joint committees with the Metropolitan Transportation Commission and the Bay Area Air Quality Management District. Advisory committees and task forces are appointed from time to time to oversee special programs in areas such as air quality, water quality, energy, and economic development. All meetings are open to the public.

The mission of ABAG, the official comprehensive planning agency for the nine-county Bay Area, is to strengthen cooperation and coordination among local governments in addressing social, environmental and economic issues that transcend local borders. An advisory organization, ABAG has limited statutory authority. Policy is determined annually by the General Assembly. Delegates to the Assembly are elected officials from member cities and counties, each having one vote, with a majority of city and county votes required for action. The General Assembly adopts the annual budget and

work program, and reviews policy actions of the Executive Board.

THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

To meet federal and State legislation, the Bay Area Air Quality Management District (BAAQMD) has prepared plans designed to achieve and maintain standards for air quality within the Bay Area. These plans — the Air Quality Plan designed to meet federal requirements and the *Bay Area '91 Clean Air Plan* (CAP) designed to meet the requirements of the California Clean Air Act — include transportation control measures (TCMs) that affect the Authority and other CMAs within the region.

Transportation control measures (TCMs) are actions designed to reduce air pollution caused by automobiles and other transportation facilities. They include maintaining and expanding traffic signal timing programs, improving access to rail transit, constructing HOV and express bus lanes on freeways, and encouraging greater density near transit centers.

Although the requirements of the Growth Management Program overlap with some of the TCMs, there is no specific link between the two. Although Measure C does not explicitly include air quality requirements for the Growth Management Program, the State legislation for CMPS does. It requires CMPS to conform to air quality emissions measures. The *Countywide Plan* will review and incorporate, as appropriate, those TCMs that are not already part

of the Growth Management Program requirements.

TRANSIT PROVIDERS

Various agencies provide transit services — including rail, bus, ferries and paratransit — within Contra Costa. Rail service is provided both by the Bay Area Rapid Transit District (BART) and Amtrak. BART operates the Richmond line in West County and the Pittsburg-Bay Point line to East County; it also serves the Tri-Valley via the Dublin-Pleasanton line. Amtrak provides inter-city rail service through West County. Four bus providers — AC Transit, WestCAT, the County Connection, and Tri Delta Transit serve Contra Costa itself and Wheels serves Tri-Valley. Ferry service is available from Richmond in West County as well as from Larkspur and Vallejo in adjoining counties. Paratransit service is also available throughout Contra Costa.

The Authority will rely on the support of these agencies to carry out the strategies outlined in the plan. One of the goals of the 2000 Update is to increase the use of transit for both commuting and general personal mobility. The Authority will work with the various transit providers to achieve this goal. Measure C sets aside a portion of the sales tax revenues generated to support transit service in Contra Costa. These revenues have, for example, been used to help fund increased night service to the North Richmond neighborhood and a bus connection between West County and Lamorinda and Central County along San Pablo Dam Road. The express bus study, which the bus operators and the

Authority will prepare, will identify potential improvements to commute service within Contra Costa and the region. The study will focus on the different commute corridors within Contra Costa and propose operational and physical changes in how such service is provided.

Schedule

This chapter outlines a number of tasks needed to achieve the Plan's vision. Some of these tasks will take place at a discrete point in time; others are ongoing or periodic tasks. The table listing these detailed tasks and activities distinguishes between these two types.

While the CTP goes out to 2020 and beyond, Measure C will sunset in 2009. It will be up to the voters and local jurisdictions of Contra Costa to decide whether and in what form the Authority continues. If the voters approve an extension of Measure C, the growth management and transportation planning activities and funding for additional transportation improvements could also continue. If the voters do not continue it, the Authority could continue in its role as the Congestion Management Agency for Contra Costa, which would provide local jurisdictions a continuing voice in regional and State transportation funding programs.

Relationship to Other Programs and Activities

CONGESTION MANAGEMENT PROGRAM

In addition to carrying out the Measure C Growth Management Program, the Authority serves as the Congestion Management Agency for Contra Costa. As the CMA, the Authority must prepare, and update every other year, a Congestion Management Program (CMP) that meets the requirements of State law. The Authority prepared the first Contra Costa CMP in 1991; its most recent update was in 1999.

Since the State used Contra Costa's Growth Management Program as a model when developing the CMP legislation, there is considerable overlap between the two programs. Both programs require standards for measuring the performance of the transportation system, a process to analyze the impact of land use changes on that system, and a capital improvement program to maintain the regional transportation system. Both also require local compliance for local jurisdictions to receive funds for transportation improvements through these programs.

There are differences between the Growth Management Program and the CMP requirements as well. The Growth Management Program allows greater flexibility in setting standards for Regional Routes but also establishes standards for local roads and requires performance standards for additional public service facilities such as fire, police, water and

sanitary sewer. The Growth Management Program requires greater consideration of the balance between jobs and housing within each community.

The CMP is linked to the Growth Management Program in several ways. For example, Deficiency Plans developed in response to violations of CMP level-of-service standards may draw on the recommendations contained in the Action Plans and be used in the periodic update of the Action Plans. In addition, performance measures in the CMP are being drawn from the traffic service objectives in the Action Plans.

THE STRATEGIC PLAN

The expenditure plan included in Measure C allocates the revenues of the half-cent sales tax to a variety of specific programs and projects. To ensure that it invests these funds wisely and effectively, the Authority prepares a Strategic Plan and updates it every two years. The most recent Strategic Plan was adopted in 1998. The Authority is now in the process of preparing its 2000 Strategic Plan.

The Strategic Plan compares estimated revenues, both from the half-cent sales tax and other sources— State, federal and local — to the estimated costs of programs and projects. Based on this comparison, the Authority uses the Strategic Plan to outline the most cost-effective method of carrying out the projects and programs outlined in the Measure C expenditure plan.

The Strategic Plan outlines investments needed to deliver the projects called for in Measure C. A

number of these projects are completed, including the extension of BART to Bay Point/West Pittsburg, SR 4 East, and the Richmond Parkway. Several other are currently under construction, such as the SR 4 West “gap closure”.

THE REGIONAL TRANSPORTATION PLAN AND THE METROPOLITAN TRANSPORTATION SYSTEM

State and federal law requires MTC to prepare and update a RTP. Just as the *Countywide Plan* provides long-range direction for operating, maintaining and expanding the transportation system for Contra Costa, the RTP provides similar direction for the Bay Area as a whole. The RTP must outline a plan for improvements to the regional transportation system that can be implemented within expected financial constraints over the next 20 years.

The most recent RTP was adopted in 1998. The new RTP responded both to changes in conditions and transportation needs and to changes in federal and State legislation, especially the new federal Transportation Equity Act for the 21st Century (TEA-21).

State legislation requires each CMP to be consistent with the RTP that applies to its county, just as the RTP must be consistent with the State Transportation Plan and applicable air quality plans. There is no similar requirement for countywide transportation plans. To obtain funding through many State and federal sources, however, projects must be included in the RTP.

STATE LAW

After its completion, the Authority could use the *Countywide Plan* to meet the requirements of AB 3705, the State law that allows the preparation of countywide transportation plans. This State legislation is permissive. It allows countywide transportation plans to contain (but does not limit them to):

- 1) Recommendations for major improvements to major arterials, the State highway system and public transit facilities;
- 2) Consideration of transportation system management alternatives designed to increase the capacity of the system to move people and goods; and
- 3) Consideration of transportation impacts associated with land use development under adopted General Plans and population forecasts.

The legislation suggests that, once adopted, a countywide transportation plan would be the primary basis for mtc's Regional Transportation Plan as it applies to Contra Costa County and would be the basis for preparing the Regional Transportation Improvement Program.

Funding Overview

Most of the money used for transportation projects is generated from the taxpayers that pay fuel, sales and other taxes and fees. These tax dollars flow into federal, State and local funding pots. The federal funds are used primarily for capital projects such as new highways and rail construction. State funds go to capital projects and cover maintenance and operations of our state highway system. Local funds are used for capital, operations, and maintenance, as well as to match federal and State grants.

When it comes to actually funding a project, however, the project sponsor confronts a myriad of programs at different levels of government. This makes understanding the funding picture more challenging, especially if you are unfamiliar with the acronyms of transportation finance. However, MTC has published a funding guide summarizing transportation sources for the San Francisco Bay Area. Called "Moving Costs," it sets forth, in lay-person's terms, where money comes from and how it is spent. Rather than recount that document here, we refer our readers to MTC's publication, which is available by calling MTC, and on MTC's Web site, www.mtc.ca.gov.

Figure 8-1 attempts to summarize agency responsibilities relative to transportation funding, at

four governmental levels, including the revenues controlled, and the key agencies that oversee the flow of transportation dollars at each level. The figure gives an overall perspective on how state, regional, countywide, and local dollars are directed, and shows the project documentation associated with each level.

Detailed Implementation Tasks

The following table outlines a series of actions and tasks designed to achieve the vision and goals and implement the strategies of the 2000 Update. These implementation steps are organized into five categories.

1. Developing projects and implementation programs
2. Supporting local actions
3. Supporting growth management
4. Building and maintaining partnerships
5. Financing the Plan

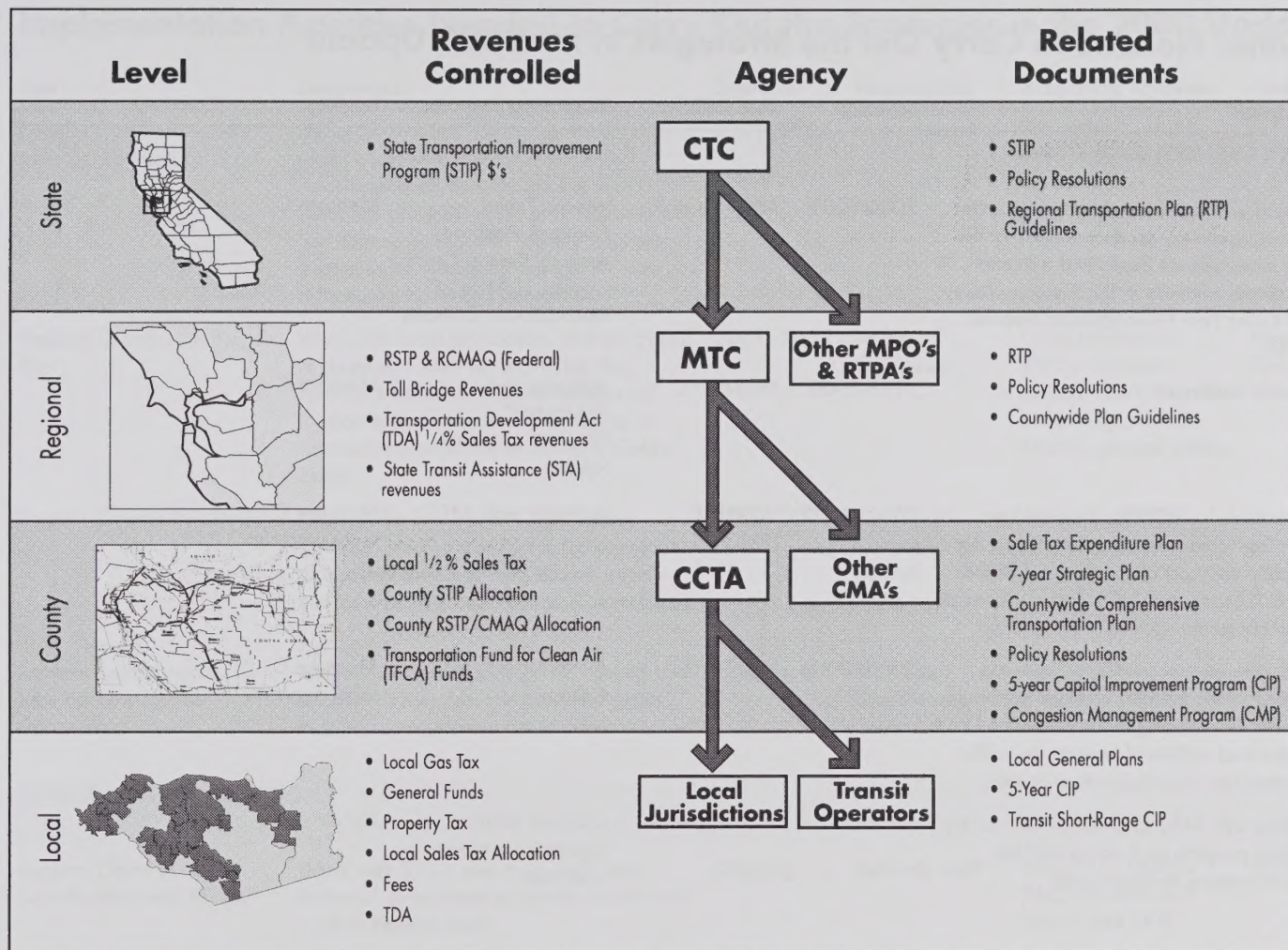


Figure 8-1 Transportation Funding Revenues, Programs and Responsibilities

Implementation Activities Needed to Carry Out the Strategies in the 2000 Update

Task	Description	Schedule	Responsibility	Supporting Agencies	Funding	Comments
DEVELOPING PROJECTS AND IMPLEMENTATION PROGRAMS						
East-Central Traffic Management Study	Working with local jurisdictions and other affected agencies, conduct a study of the traffic management issues and potential operational solutions in the Ygnacio Valley Road-Kirker Pass Road-Railroad Avenue corridor	2000-2001	Authority staff	Walnut Creek, Concord, Pittsburg, Antioch, Contra Costa County, TRANSPAC, TRANSPLAN, Caltrans	Measure C	
East/Central/Southwest Ramp Metering Study	Currently underway	1998-2000	TRANSPAC	Authority staff, TRANSPAC, TRANSPLAN, and SWAT	Measure C	
HOV Facility Study on San Pablo Dam Road and Camino Pablo	Study needs for HOV facilities on San Pablo Dam Road and Camino Pablo; the feasibility and cost of installing additional Park & Ride lots and HOV bypass lanes at critical congestion points in the corridor	2001-2002	WCCTAC, LPMC	Authority staff, MTC	Measure C, local agencies	
I-80 Ramp Metering Study	Study strategies for implementing ramp metering within the I-80 corridor and their potential for reducing delay within the corridor and collateral impacts on traffic operation on adjoining surface streets	2003-2004	WCCTAC	Authority staff, MTC, Caltrans	Measure C, local agencies	
Develop Proposed Project List for Biennial STIP	Working with MTC and the RTPCs, identify potential projects for funding and set priorities among those projects	Biennial	Authority staff	Caltrans, local jurisdictions, transit operators	CMA	
Conduct I-680 "Post-Mortem"	Analyze past and existing traffic conditions to the north, south and west of the I-680/SR 24 interchange to determine the effectiveness of the recently-completed interchange improvements	2000-2001	Authority staff	RTPCs, local jurisdictions, Caltrans	Measure C	

Implementation Activities Needed to Carry Out the Strategies in the 2000 Update

Task	Description	Schedule	Responsibility	Supporting Agencies	Funding	Comments
Prepare Comprehensive I-680 Corridor Study	Using information from other studies and plans – possibly supplemented by additional analysis – assess the future demands on I-680 south of SR 24 in the San Ramon Valley and identify potential strategies for managing congestion and addressing increased demands	2001–2002	Authority staff	TRANSPAC, SWAT, TVTC, Caltrans, MTC	Measure C	
Prepare Countywide Bicycle Plan	Work with local jurisdictions and the public to develop a plan for improving the facilities needed to improve safety and support increased use of bicycles as an alternative transportation mode in Contra Costa	2001–2002	To be determined	Local jurisdictions, RTPCs, Alameda County CMA, bicycle community, ABAG, EBRPD, general public	Measure C, CMA	Could begin in FY 2000–2001 if partners agree on scope and schedule and approve funding
Prepare Express Bus Study	Through the Bus Transit Coordinating Council, develop a plan for the operation of a comprehensive, cooperative express bus services into and through Contra Costa	2000–2001	Bus Transit Coordinating Council	Authority, BART	Measure C	Authority will manage project, including RFP and consultant process
Improve Transit Access To Jobs For Low-Income Commuters	Identify changes in scheduling, routing and coordination to provide improved access to jobs for low-income commuters	Ongoing	Bus Transit Coordinating Council, BART	Authority	To be determined	Could be made a specific study

SUPPORTING LOCAL ACTIONS

Support Efforts of and Coordination with RTPCs	Work with RTPCs and their staffs and technical committees to identify issues and work to resolve them	Ongoing	Authority staff	WCCTAC, TRANSPAC, TRANSPLAN, SWAT and TVTC	Measure C	
Support Preventive Maintenance Programs	Work with preventive maintenance programs where none exist, improve coordination among jurisdictions, and support maintenance programs	Ongoing	Authority staff	Local jurisdictions	Measure C	

Implementation Activities Needed to Carry Out the Strategies in the 2000 Update

Task	Description	Schedule	Responsibility	Supporting Agencies	Funding	Comments
SUPPORTING GROWTH MANAGEMENT						
Modeling Evaluation Study and Decennial Model Update	Assess the issues and options for updating and improving the Authority's travel demand models, given improvements to modeling technology and changing demographics in Contra Costa and the Bay Area and changing needs; recommend a plan of action for updating the Authority's models, and implement that plan	1999-2001	Authority staff	Technical Modeling Working Group; TCC	Measure C	
Establish New Land Use Baseline	As part of implementation of new modeling system, work with local jurisdictions to establish new baseline of land use information; baseline will provide improved information for estimating impacts of changes in the transportation network, development or demographics	2000-2001	Authority staff	Local jurisdictions	Measure C	
Review Growth Management Program	In consultation with RTPCs and local jurisdictions, evaluate the existing Measure C Growth Management Program and options for improving its effectiveness in supporting growth management	1999-2000	Authority staff		Measure C	
Monitor Compliance with Growth Management Program	Prepare forms for reporting local compliance with requirements of the Growth Management Program; distribute to local jurisdictions; and report on their compliance with those requirements	Annual	Authority staff	Local jurisdictions	Measure C	
Biennial CMP Update	Update the Contra Costa Congestion Management Program as required by State law to reflect changes to legislation and update the projects and programs recommended	Ongoing	Authority staff	TCC, local jurisdictions	CMA	

Implementation Activities Needed to Carry Out the Strategies in the 2000 Update

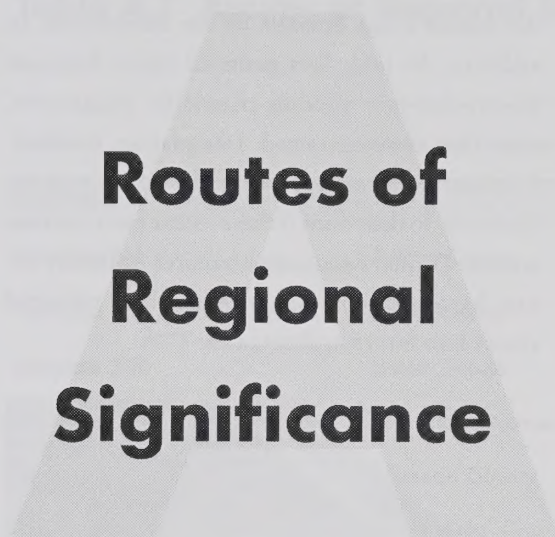
Task	Description	Schedule	Responsibility	Supporting Agencies	Funding	Comments
Biennial CMP Model Update	As part of the biennial CMP update, update the Authority's travel demand model to incorporate new land use projections and be consistent with MTC modeling guidelines	Ongoing	Authority staff	Local jurisdictions	Measure C	
Monitor Regional Transportation System	Monitor the performance of the regional transportation system using a set of measures of overall performance	Biennial	Authority staff	Caltrans	Measure C, CMA	
Update Countywide Comprehensive Transportation Plan	Update the policies, strategies and projects designed to achieve the Authority's vision for the Plan consistent with the requirements of Measure C; the update will build on and incorporate changes made during the update of the Action Plans	2 years (minor update) to 5 years (major update)	Authority staff	All affected agencies	Measure C	
Update Action Plans	Review TSOs and actions and modify to reflect changing conditions	Biennial	RTPCs	Authority staff	Measure C, local jurisdictions	
Update Strategic Plan	Update the projects and programming schedule to reflect changes in estimated revenues and project design	Biennial	Authority staff	Caltrans, local jurisdictions, transit operators	Measure C	
BUILDING AND MAINTAINING PARTNERSHIPS						
Continue Involvement in Bay Area Partnership	Work with regional and State agencies including MTC, ABAG, BAAQMD, and Caltrans, to develop approaches to improve the efficiency of the regional transportation system, improve air quality and address funding issues	Ongoing	Authority staff	MTC, ABAG, BAAQMD, other CMAs, Caltrans	CMA	
Participate in Caltrans Transportation Corridor Concept Updates	Work with Caltrans, and local jurisdictions and regional agencies, to update transportation corridor concepts for various corridors within and adjacent to Contra Costa	Ongoing	Authority staff	Local jurisdictions, transit operators	CMA	

Implementation Activities Needed to Carry Out the Strategies in the 2000 Update

Task	Description	Schedule	Responsibility	Supporting Agencies	Funding	Comments
Continue Involvement in Bay Area Partnership	Work with regional and State agencies, including MTC, ABAG, BAAQMD and Caltrans, to develop approaches to improve the efficiency of the regional transportation system, improve air quality and address funding issues.	Ongoing	Authority staff	MTC, ABAG, BAAQMD, other CMAAs, Caltrans	CMA	
Participate in Caltrans Transportation Corridor Concept Updates	Work with Caltrans, and local jurisdictions and regional agencies, to update transportation corridor concepts for various corridors within and adjacent to Contra Costa	Ongoing	Authority staff	Local jurisdictions, transit operators	CMA	
Prepare SR 239 Interregional Corridor Study	Work with partners to develop and analyze forecasts of travel demand and prepare recommendations for improving the travel corridor between East County and the Central Valley	2000-2001	To be determined	Caltrans, Authority, local jurisdictions	CMA	

FINANCING THE PLAN

Investigate Extension of Measure C	Evaluate the potential for extending the Measure C sales tax and the transportation improvement and growth management programs it funds; this evaluation will look at forecast needs for both transportation and growth management, potential changes to current programs, and local support for such an extension	TBD	Authority staff	RTPCs, local jurisdictions, transit providers, CAC, general public	Measure C	
Support Expanded Funding Programs	As part of its legislative program, support legislation that would expand funding to meet needs for improving the transportation system and supporting growth management in Contra Costa, the region and the state	Ongoing	Authority		Measure C	



Routes of Regional Significance

The 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan — Adopted July 19, 2000

The 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan is built on the Action Plans for Routes of Regional Significance. These Regional Routes represent the network of freeways and major arterial streets that connect the regions of Contra Costa with the rest of the Bay Area and with each other. This appendix lists the Regional Routes designated by the Authority and RTPCs and describes their role in the Growth Management Program.

On streets that primarily serve more local traffic, Measure C requires local jurisdictions to establish and maintain strict level-of-service standards keyed to surrounding land uses. The Measure C Growth Management Program, however, also recognizes that some roads serve regional travel more than local trip-making. Since these Regional Routes serve regional travel, local jurisdictions cannot reasonably be expected to take full responsibility for resolving issues on them, and the GMP requires a cooperative, multi-jurisdictional process for addressing these issues.

As part of its Action Plan, the RTPC must establish quantified traffic service objectives, or TSOs, for each Regional Route and actions for achieving them. In addition, the RTPC must set a schedule for achieving the TSO and the responsibilities for carrying out the actions. The Action Plan process is described in greater detail in Chapter 6.

The Authority and RTPCs have designated the Regional Routes building on the list of facilities in Measure C and using the following criteria:

- Does the road connect two or more “regions” of the county?
- Does the road cross county boundaries?
- Does the road carry a significant amount of through traffic?

- Does the road provide access to a regional highway or transit facility, such as a BART station or freeway interchange?

The table on the following pages lists the currently designated Regional Routes and potential future routes within Contra Costa.

For each Regional Route, the table lists both the limits of the Regional Route designation and

the Action Plans affected by the designation. In addition, the table lists potential future Regional Routes that may meet the criteria for designation, once they are constructed. Designation, however, is subject to future review by the RTPCs and the Authority to determine if these routes meet relevant criteria. Formal designation requires Authority action by resolution, incorporating these potential routes into future updates of the CTP.



Table A.1 Routes of Regional Significance

Route	Facility Limits		Included in Which Action Plans?				
	North or West Limit	South or East	West	Central	Lamorinda	East	Tri-Valley
EXISTING							
Interstate 80	Solano County	Alameda County	▲				
Interstate 580 (John T. Knox)	Marin County	Alameda County	▲				
Interstate 580	Dublin Grade	Altamont Pass					▲
State Route 4	San Pablo Avenue	San Joaquin County	▲	▲		▲	
State Route 24	Alameda County	I-680		▲	▲		
State Route 160	Sacramento County	State Route 4				▲	
State Route 242	I-680	State Route 4		▲			
East 18th Street	A Street	State Route 160				▲	
23rd Street	San Pablo Avenue	Cutting Boulevard	▲				
A Street	East 18th Street	State Route 4 (at Lone Tree Way)				▲	
Alcosta Boulevard	San Ramon Valley Boulevard	Alameda County					▲
Alhambra Avenue	Arch Street	Taylor Boulevard		▲			
Appian Way	San Pablo Avenue	San Pablo Dam Road	▲				
Bailey Road	W. Leland Road	Willow Pass Rd (in Bay Point)				▲	
Balfour Road	Deer Valley Road	Byron Highway				▲	
Bollinger Canyon Road	San Ramon Valley Boulevard	Canyon Lakes Drive					▲

Table A.1 Routes of Regional Significance

Route	Facility Limits		Included in Which Action Plans?				
	North or West Limit	South or East	West	Central	Lamorinda	East	Tri-Valley
Buchanan Road	Railroad Avenue	Somersville Road				▲	
Byron Highway	State Route 4	Alameda County				▲	
Camino Diablo	Marsh Creek Road	Walnut Boulevard				▲	
Camino Pablo	San Pablo Dam Road	Moraga Way			▲		
Camino Tassajara	Sycamore Valley Road	Alameda County					▲
Carlson Boulevard	Cutting Boulevard	San Pablo Avenue	▲				
Central Avenue	I-580	San Pablo Avenue	▲				
Clayton Road	Treat Boulevard	Ygnacio Valley Road		▲			
Contra Costa Boulevard	State Route 4	I-680		▲			
Crow Canyon Road	Alameda County	Camino Tassajara					▲
Cummings Skyway	San Pablo Avenue	State Route 4	▲				
Cutting Boulevard	Garrard Boulevard	San Pablo Avenue	▲				
Danville Boulevard	I-680	San Ramon Valley Road					▲
Delta Fair Boulevard	City of Pittsburg (at Century)	Somersville Road				▲	
Deer Valley Road	Hillcrest Avenue	Marsh Creek Road				▲	
Dougherty Road	Camino Tassajara	Alameda County					▲
El Portal Drive	San Pablo Avenue	San Pablo Dam Road	▲				
Fairview Avenue	Lone Tree Way	Balfour Road				▲	

Table A.1 Routes of Regional Significance

Route	Facility Limits		Included in Which Action Plans?				
	North or West Limit	South or East	West	Central	Lamorinda	East	Tri-Valley
Garrard Boulevard	Richmond Parkway	Cutting Boulevard	▲				
Geary Road	Pleasant Hill Road	North Main Street		▲			
Hillcrest Avenue	State Route 4	Lone Tree Way				▲	
James Donlon Avenue	Somersville Road	Lone Tree Way				▲	
Kirker Pass Road	Buchanan Road	Clayton Road		▲		▲	
Leland Road	Bailey Road	City of Antioch (at Century)				▲	
Lone Tree Way	State Route 4 (at A Street)	State Route 4 (Brentwood Blvd.)				▲	
Marsh Creek Road	Deer Valley Road	State Route/Byron Highway				▲	
North Main Street	Boyd Road	I-680		▲			
Pacheco Boulevard	Waterfront Road	State Route 4		▲			
Pleasant Hill Road	Geary Road	State Route 24		▲	▲		
Railroad Avenue	State Route 4	Buchanan Road				▲	
Richmond Parkway	I-80	I-580	▲				
San Pablo Avenue	I-80 (Crockett)	Alameda County	▲				
San Pablo Dam Road	San Pablo Avenue	Camino Pablo	▲		▲		
San Ramon Valley Boulevard	Danville Boulevard	Alameda County					▲
Somersville Road	West 10th Street	James Donlon Boulevard				▲	
Sycamore Valley Road	Danville Boulevard	Camino Tassajara					▲

Table A.1 Routes of Regional Significance

Route	Facility Limits		Included in Which Action Plans?				
	North or West Limit	South or East	West	Central	Lamorinda	East	Tri-Valley
Taylor Boulevard	Contra Costa Boulevard	Pleasant Hill Road (Lafayette)		▲			
Treat Boulevard	North Main Street	Clayton Road		▲			
Vasco Road	Walnut Boulevard	Alameda County					▲
Village Parkway	Alcosta Boulevard	Alameda County					▲
Walnut Boulevard	Brentwood Boulevard	Vasco Road				▲	
Willow Pass Road	State Route 4 (Bay Point)	Railroad Avenue				▲	
Willow Pass Road	Contra Costa Boulevard	State Route 242		▲			
Willow Avenue	San Pablo Avenue	State Route 4	▲				
Ygnacio Valley Road	I-680	Clayton Road		▲			
POTENTIAL FUTURE REGIONAL ROUTES (subject to Authority review and approval)							
State Route 4 Bypass	State Route 4	Byron Highway				▲	
Armstrong Road	Vasco Road	Byron Highway				▲	
Bollinger Canyon Road	Canyon Lakes Road	Dougherty Road					▲
Buchanan Road Bypass	Railroad Avenue	Somersville Road				▲	
Leland Road Extension	Willow Pass Road (Concord)	Bailey Road		▲		▲	
San Creek/Dallas Ranch Road	Lone Tree Way	State Route 4/Brentwood Boulevard				▲	
Standard Oil Avenue	State Route 4	Somersville Road				▲	

Comprehensive Transportation Project List

As part of the development of the 2000 Update, the Authority has identified a variety of projects and programs designed to carry out the strategies contained in the Plan. These projects run the gamut of all transportation improvements: from the widening of freeways or the extension of BART to new bicycle trails and signal coordination. This appendix contains this comprehensive transportation project list.

The following set of projects and programs — referred to as the Comprehensive Transportation Project List or CTPL — was generated from the Action Plans, the 1999 Contra Costa CMP, MTC's *Blueprint for the 21st Century*, and local staff input. Authority staff have put these projects into a computer database which can be queried and reorganized for a variety of purposes. This database was, for example, used to define the “project”, and alternatives to it, for the required CEQA analysis on the 2000 Update.

The following tables are organized by RTPC and then by project type. They include a short description of the projects, including project limits, as well as an estimated total cost, primary sponsor and whether the project is located on a Regional Route, CMP network route or MTS route. The final three columns note whether the project is included Track 1 of the Regional Transportation Plan, in MTC's *Blueprint for the 21st Century*, or in the RTIP or STIP.

Because many of these projects are still in the early stages of development, reliable information on cost or source of funding is not yet available. As these projects are further developed, such information will be added to the CTPL.

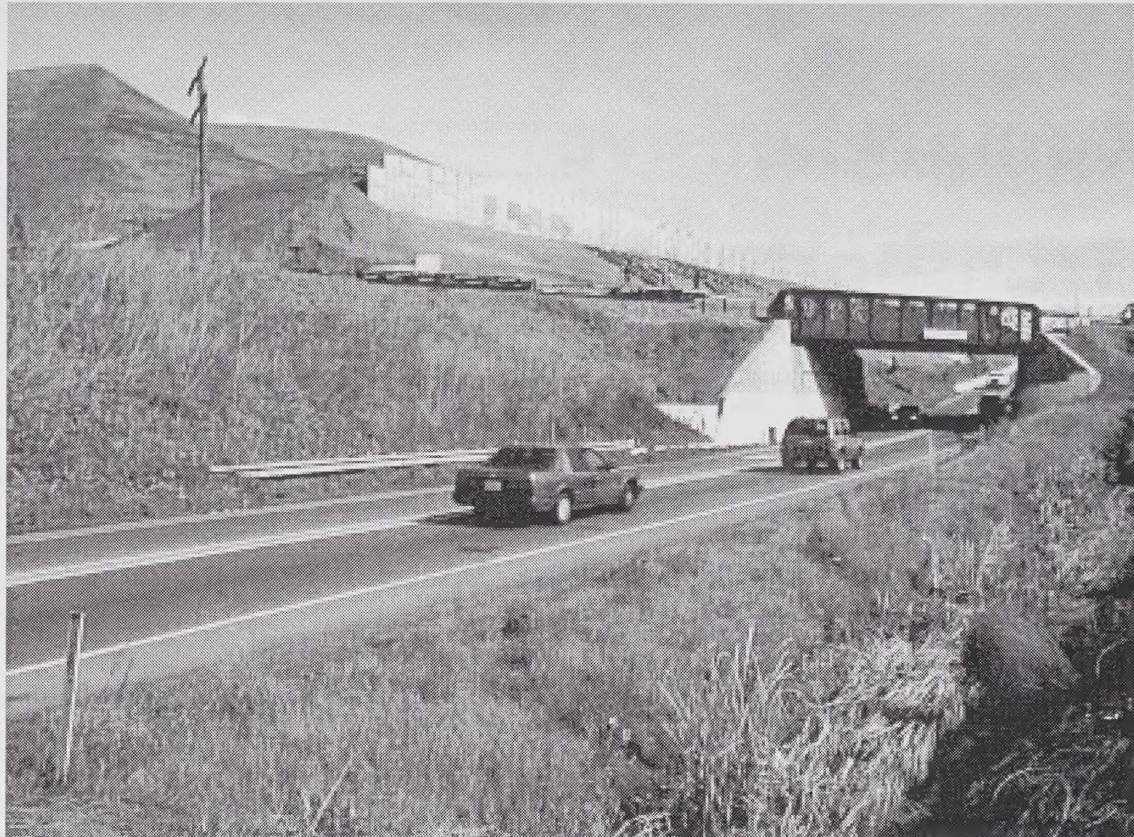


Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterial/Roadway											
94	Del Norte BART Station access capacity enhancement	Portrero to Cutting at San Pablo Ave.	Widen from 4 to 6 lanes	BART	*	*	*				
58	Cummings Skyway Extension	Extend from I-80 to San Pablo Ave.	Two lane facility	Contra Costa County	*	*	*				
29	Parker Avenue Reconstruction	From 1st St. to about 7th St. in Rodeo	Reconstruct roadway/ Intersection improvements	Contra Costa County	*	*	*	\$1,459			
18	Cummings Skyway Truck Climbing Lane	From I-80 east past the summit east of Crockett Blvd.	Build truck climbing lane on eastbound Cummings Skyway to allow faster moving vehicles to safely pass slow moving trucks climbing existing 10% grade	Contra Costa County	*		*	\$2,100			
93	San Pablo Dam Road Access Improvements	El Portal Drive to Appian Way	Provide circulation and access improvements for local traffic, pedestrians and bicycles to be determined through study	Contra Costa County	*	*	*			*	
100	Valley View Road Widening	From San Pablo Dam Road to Appian Way	Widen to 4 lanes	Contra Costa County		*	*				
99	Appian Way widening	San Pablo Dam Road to I-80	Widen by 2 lanes San Pablo Dam Road to I-80	Contra Costa County, Pinole	*	*			*		
105	Key Blvd. Widening	Cutting to Portrero	Widen to 6 lanes	El Cerrito		*					
97	Linus Pauling extension	From Sycamore Valley/San Pablo	Extend as two lane arterial to Sycamore Valley/San Pablo in Hercules	Hercules		*					

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
220	Bayberry Avenue Widening	Bayberry Ave. in Hercules	Bayberry Avenue widening. Add one travel lane each direction.	Hercules				\$930			
103	Willow Avenue Widening	I-80 to San Pablo Ave.	Widen Willow Avenue to 4 lanes	Hercules		*					
102	Tennent Avenue	Henry Avenue to San Pablo Avenue	Add 2 lanes in Rodeo	Pinole		*					
96	Pinole Valley Road Turn Lane	Pinole Valley Road between I-80 and Henry	Add two-way left turn lane	Pinole		*					
110a	Richmond Parkway: Segment 1B south	I-580 to Pennsylvania on Garrard Blvd. in Richmond	Widen existing 2-lane road to 4 lane divided arterial. Add bike lanes	Richmond	*	*	*				*
187	Carlson/Cutting Grade Separation	Cutting Blvd. At SP tracks	Construct grade separation	Richmond	*		*				
98	Meeker Avenue	Harbour Way to Meade St.	Construct 4 lane arterial from Harbour Way to Meade Street	Richmond		*					
101	Hilltop Drive Extension	From San Pablo to Richmond Pkwy.	Extend 4 lanes	Richmond		*					
121	El Portal Drive Widening	From Church lane to I-80 and then from I-80 to San Pablo Dam Road	Widen to 4 lanes	San Pablo, Contra Costa County	*		*				
117	San Pablo Avenue Intersection improvements	San Pablo Avenue at Appian Way	Intersection improvements	WCCTAC	*	*	*		*		
New	Widen Harbour Way	From Cutting Blvd. To Hall Avenue	Reconstruct roadway to include Class 1 bikeway	Richmond							

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
New	Widen Barrett Avenue	From 6th St. to Garrard Blvd.	Provide increase in traffic volume as a result of the Richmond Parkway	Richmond							
New	Widen Cutting Blvd.	From 23rd St. to 9th St.	Roadway improvements	Richmond							
Bicycle/Pedestrian											
215	Richmond transit village	At Richmond BART station	Construct new pedestrian plaza including reconstruction of walkway entering station on west side, and new multi-level parking facility	BART, Richmond				\$836	*		
251	Bikeway along SR 4 Expressway	Along SR 4 Expressway	Bikeway	Caltrans, Hercules							
208	Pedestrian/ Bicycle lanes on San Pablo Dam Road	No specific limits identified, where appropriate.	Add a pathway, walkway bicycle lanes along roadway	Contra Costa County						*	
306	Complete San Francisco Bay Trail	Between Alameda Co. line and Carquinez Bridge	Complete all parts of the Bay Trail to result in one contiguous trail	East Bay Regional Park District, ABAG							
237	Bay Trail Connection	In City of Pinole	Bicycle/Pedestrian bridge	Pinole				\$600			
296	Richmond Bike Trail	In Richmond at Miller-Knox Regional Park	Construction of a 1-mile Class 1 bikeway	Richmond				\$1,355	*		*
249b	Cutting Blvd. Corridor Bikeways	Ohio Ave. between Richmond Pkwy. and San Pablo Ave.	Install bike lanes	Richmond							

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
249a	Cutting Blvd. Corridor Bikeways	West Cutting from Garrard Blvd. to Hoffman Blvd. and Hoffman Blvd from W. Cutting to Marina Bay Pkwy.	Install bike lanes	Richmond							
120	Bicycle Lanes on San Pablo Avenue	Entire length in County	Extend bicycle lanes where feasible	WCCTAC					*		
248	I-80 Bikeway Corridor	El Cerrito to John Muir Pkwy.	Class II and III facility along (South to North) Key, Clinton, Amador, San Pablo Dam Rd., Appian Way, & San Pablo Ave.	WCCTAC							*
New	Richmond Greenway project	In the City of Richmond from Garrard Blvd. To I-80	Link the Ohlone Greenway and Bay Trail in the City of Richmond. Class I 2.5 mile path on abandoned Santa Fe right-of-way	WCCTAC, Richmond							
New	Richmond Parkway Bike Lanes	Along Richmond Parkway	Add bike lanes	WCCTAC, Richmond							
New	Bicycle parking	At El Cerrito Plaza BART station	Bicycle parking facilities	WCCTAC							
Bus Services											
225	San Pablo Avenue Bus Rapid Transit service	On San Pablo Ave. in Contra Costa Co.	New passenger stations, information kiosks, improvements to geometrics, increased bus service. (cost for Contra Costa portion)	AC Transit	*	*	*	\$4,300	*	*	

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
243	Expand Express Bus Service on I-80 from Solano County to Richmond, Berkeley and Oakland	On I-80 for the length of the county	Express bus service on I-80 from Solano County to Richmond, Berkeley and Oakland	AC Transit, Solano Transit	*	*	*		*	*	
Expressway											
42a	State Route 4 West, Phase 1	I-80 to Cummings Skyway	Construct two new lanes north of the existing highway along the ultimate freeway alignment. When combined with the existing roadway, Phase 1 will provide a four-lane, fully-divided facility throughout the corridor	CCTA, Caltrans	*	*	*	\$76,817			
Ferry											
226	Richmond Ferry Service	Richmond to San Francisco	Two trips/day from Richmond to SF	Richmond							
244	Increase Ferry Service on Richmond line	Richmond Ferry station to San Francisco	Double current service. Improve station amenities including parking.	Richmond						*	
Freeway											
112	Interstate 80 Auxiliary Lane	Richmond Parkway to Appian Way	Construct eastbound auxiliary lane	Caltrans	*	*	*				
114	Interstate 80 Auxiliary Lane	Central Avenue to San Pablo Dam Road	Construct auxiliary lanes	Caltrans	*	*					
109	Interstate 80 HOV lanes	Bay Bridge Toll Plaza to SR 4	Widen for HOV lanes	Caltrans	*	*	*				

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
69	HOV Lanes Northbound from Willow Road to Crockett Interchange	Willow Road to Carquinez Bridge	HOV lane northbound	Caltrans	*	*	*		*		
42b	State Route 4 West, Phase 2	I-80 to Cummings Skyway	Construct full freeway	CCTA, Caltrans	*	*	*	\$76,817	*		*
Interchange											
122	New Interchange at Richmond Parkway and Atlas Road	At Interstate 80, Richmond Parkway/Atlas Road	New interchange	Caltrans							
22	I-80/SR 4 West Interchange	At interchange with SR 4 in Hercules	Construct grade-separated freeway-to-freeway connectors	Caltrans	*	*	*	\$40,000		*	
246	Reconstruct San Pablo Dam Road/I-80 Interchange	I-80 at San Pablo Dam Road	Upgrade and improve interchange. Includes provisions for bicyclists on I-80 bikeway and pedestrians on San Pablo Dam Road	Caltrans						*	
247	Upgrade Cummings Skyway/I-80 Interchange	I-80 at Cummings Skyway	Improve and modify interchange	Caltrans, Contra Costa County					*	*	
59	Grade Separation of Willow/Bayberry and Sycamore	Willow, Bayberry and Sycamore	Grade separation of Willow/Bayberry and Sycamore	CCTA, Caltrans	*	*	*				
70	Interchange at San Pablo Avenue	Richmond Parkway at San Pablo Avenue	Construct interchange to eliminate existing at-grade signalized intersection.	Richmond	*	*		\$10,300		*	

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Maintenance											
240	AC Transit Capital shortfall	AC Transit service area	Fund AC Transit's capital shortfall to maintain its system	AC Transit				\$24,700	*	*	
294	Seismic Retrofit of the Richmond Bridge (Contra Costa Co. portion)	Richmond San Rafael Bridge	Strengthen existing structure	Caltrans				\$290,000			
68	Replace Carquinez Bridge	Carquinez Bridge on I-80	Replace west span and strengthen east span for a 10-lane bridge (8 mixed flow + 2 HOVs); add southbound HOV lane from Cummings Skyway to the Bridge; modify Crockett interchange	Caltrans	*	*	*				
123	San Pablo Avenue Road Reconstruction	In City of Hercules	Reconstruct San Pablo Ave. and extend bicycle lanes	Hercules, Contra Costa County, Caltrans	*	*	*				
Operations											
116	Ramp Metering on I-80	From Bay Bridge to Carquinez Bridge	Install ramp metering hardware at all on-ramp locations and electronic speed controls	Caltrans	*	*					
38	San Pablo Avenue Smart Corridor Project	Broadway (downtown Oakland) to SR 4 (Hercules)	Operational improvements, signage, metering, incident management (covers Contra Costa portion)	CCTA, WCCTAC	*	*	*	\$3,345		*	

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Park-and-Ride											
113	Atlas Road Park-and-Ride Lot	I-80 at Atlas Road	Construct 200-stall park-and-ride lot	Caltrans/Richmond	*	*					
Rail and Rapid Transit											
108	Light Rail to Hilltop Mall	County line to Hilltop	Light rail on I-80-San Pablo Avenue corridor	AC Transit		*				*	
107b	BART Extension West County, Phase 2	Hilltop to Hercules	Extend BART from Hilltop to Hercules; construct new station at Hercules	BART	*					*	
107a	BART Extension West County, Richmond to Hilltop	Richmond Station to Hilltop	Extension of BART to Hilltop with station at Hilltop	BART	*	*				*	
111	Parking at El Cerrito BART Station	At El Cerrito BART Station	Build a new parking facility and bus circulation improvements	BART		*		\$5,964			
307	Intercity Rail service	In Contra Costa Co. along I-80 corridor	Add rolling stock for service expansion and complete passenger convenience projects, Richmond and Martinez station projects and track projects that improve safety, reliability and speed	BART, Capitol Corridor JPB						*	
245	Hercules Intermodal Train Station	In City of Hercules	Construct Capitol Corridor Intermodal train station in City of Hercules	BART, Hercules						*	
115	Transit Off-Ramps to El Cerrito BART	Interstate 80 at Cutting Blvd.	Add transit off-ramp and IC modifications	Caltrans	*	*	*				

Table B.1 Comprehensive Transportation Project List: West County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
210	Del Norte BART Station/ San Pablo Avenue Capacity Enhancement	San Pablo Avenue at Del Norte BART	widening and improvements	El Cerrito							
214	Richmond Intermodal Transfer Station	BART at Richmond Station	Improvements to enhance BART, bus, Amtrak transfer	WCCTAC, BART, Richmond				\$7,801	*		*
Studies											
310	Ferry upgrade Study	West County	Study new services ferry services originating out of Rodeo and/or Hercules	WCCTAC						*	
New	San Pablo Dam Road Implementation Program	Appian Way to Tri Lane	Includes a roadway alignment study, consistent roadway standards, and program for widening, channelization, median construction, pedestrian & bike facilities	County, Richmond				\$100			
New	North Richmond Truck Access Study	North Richmond and adjacent areas of Richmond and San Pablo	Develop a truck route linking the North Richmond and Richmond industrial areas	County, Richmond, San Pablo				\$2,100			
New	HOV Facility Needs	San Pablo Dam Road and Camino Pablo Corridor	Feasibility and cost of installing additional park and ride lots and HOV bypass lanes	WCCTAC							
New	San Pablo Dam Road Transit Access Study	San Pablo Dam Road and Camino Pablo Corridor	Determine transit access and amenity needs as identified by the transit agencies.	Transit opera- tors, County, local cities, WCCTAC							

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterial and Roadway											
218	Marsh Creek Road reconstruction	In City of Clayton	Reconstruction project	Clayton				\$746			
303	Commerce Avenue Extension	From the existing terminus of Commerce Avenue to Willow Pass	Extend existing two-lane arterial	Concord							
85	Panoramic Extension	Extend from N. Concord BART to Willow Pass Road Rd. in Concord (through Naval Weapons Station)	Extension of Panoramic Dr. from N. Concord BART to Willow Pass. Two-lane extension	Concord		*		\$7,000	*		
132	Ygnacio Valley Road Improvement	Ygnacio Valley Road at Cowell Rd.	Widen/reconstruct left-turn lane	Concord	*	*	*				
278	Widen Ygnacio Valley Road	Cowell to Clayton	Widen from 4 to 6 lanes	Concord	*	*	*				
10	Blum Road Improvements	Pacheco Blvd. To Imhoff Dr.	Widen pavement, install curb, sidewalk, and drainage improvements	Contra Costa County				\$432			
27	Pacheco Boulevard Realignment	At BNSF railroad undercrossing	Relocate railroad undercrossing and realign roadway to improve geometrics	Contra Costa County	*		*	\$5,000			
30	Pleasant Hill Road / Taylor Boulevard Realignment	At the separation of NB Pleasant Hill Rd. and Taylor Blvd. near Walnut Creek	Realign existing reversing curves on NB Pleasant Hill Rd. at its separation with Taylor Blvd.	Contra Costa County	*	*	*	\$3,500	*		
28	Pacheco Boulevard Widening	Between Blum Rd. and Morello	Widen road to 4 lanes	Contra Costa County	*		*	\$8,000	*		

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
232	Pacheco Blvd widening and Bicycle lanes	In City of Martinez: Potter St. to Susana	Widening and bicycle lanes	Martinez				\$2,180			
86	Alhambra Avenue improvements	On Alhambra from Macalvey to Benham Dr.	Widen from 2 to 4 lanes and improve	Martinez	*	*	*				
189	Taylor Boulevard Improvements	Pleasant Hill Road/ Taylor to westbound Alhambra Ave	Widen for second left-turn lane from EB Taylor to NB Alhambra	Pleasant Hill	*	*	*				
175	Pleasant Hill Road/ Taylor Blvd. Signal Improvements	From State Route 24 in Lafayette to Contra Costa Blvd. in Pleasant Hill	Roadway improvements and signal interconnect, with local jurisdictions maintaining control	Pleasant Hill, Lafayette, County	*	*	*	\$1,100	*		
177	Contra Costa Boulevard Gap Closure	2nd Avenue in Pacheco to Boyd Rd. in Pleasant Hill	Widen to 6 lanes, add soundwalls	TRANSPAC	*		*	\$2,000			
178	Contra Costa Blvd. Improvements	Contra Costa Blvd. at Chipancingo Pkwy.	Roadway improvements	TRANSPAC	*	*	*				
88	Expand Intersection: North Main Street	From I-680 off on-ramp/Sunnyvale Rd. to Geary	I-680 on/off-ramps/ Sunnyvale to Geary on N. Main	Walnut Creek	*	*	*				
21	Geary Road Widening	N. Main St. to Pleasant Hill Rd.	Widen Geary Road to two through lanes, N. Main St. to Pioneer Ave., and one through lane in each direction, Pioneer Ave. to Pleasant Hill Rd., with a two way left turn lane, bike lanes, parking and/or landscaping, and sidewalks	Walnut Creek	*	*	*	\$7,125			

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Bicycle/Pedestrian											
230	Concord BART Access	At Concord BART Station	Construct pedestrian walkways, BART plaza and kiss-and-ride area	BART, Concord				\$558			
129	Clayton Road	Clayton Road at Center Street	Improve signal coordination at Clayton Rd.-Marsh Creek Rd.-Center St. in Clayton. Add pedestrian-activated signal crossing and median crossing	Clayton	*		*	\$270			
229	Iron Horse Gap Closure	In City of Concord: Mayhew to Monument	Complete Mayhew to Monument section	Concord, East Bay Regional Park District				\$836			
6	Arthur Road Widening	Pacheco Blvd. to I-680	Widen roadway to install bike lane and sidewalk	Contra Costa County				\$325			
190	Pleasant Hill BART station	At the Pleasant Hill BART station	Improve access for pedestrian and bicyclists	Contra Costa County, BART							
295	Bike Lane Construction	From Pleasant Hill BART station to Route 4 (four miles)	Construction of a Class 1 bike facility along entire length of Iron Horse Trail	East Bay Regional Park District, TRANSPAC				\$1,800	*		*
235	Extend Marina Vista Bike Lanes	Extend under I-680 along Waterfront Road to Point Edith in Martinez	Extend under I-680 along Waterfront Road to Point Edith	Martinez				\$500			
234	Extension of Contra Costa Canal Trail	Muir Road south of SR 4 to Martinez Reservoir	Extend the existing trail from Muir Road south of SR 4 to Martinez Reservoir via existing bike lanes on Pacheco Blvd.	Martinez				\$500			

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
224	Pleasant Hill Road pedestrian improvements	Boyd to Geary	Resurface roadway, repair pedestrian bridges, add bike lanes and sidewalks	Pleasant Hill							
228	Iron Horse Trail Overcrossing	At Jones and Treat in Walnut Creek	Build trail overcrossing	Walnut Creek				\$2,292			
298	Iron Horse Trail Overcrossing	At the Iron Horse Trail over Ygnacio in Walnut Creek	Construct overcrossing	Walnut Creek				\$1,452			
New	Center Ave-Marsh Drive-Solano Way Bikeway	Hidden Lakes Drive to Arnold Industrial Way	Class II/III bikeway for alternate east-west access along State Route 4	County				\$170			
New	Bay Trail Gap Closure	Port Costa to Ozol	Construct 8' Class I bikeway	County, EBRPD							
Ferry											
174	Martinez Intermodal Project: Ferry Service	Martinez to San Francisco	Institution of ferry service to SF.; landside improvements, ferry boats, operations	Martinez				\$9,000		*	*
Freeway											
73	New Benicia/Martinez Bridge with HOV and Bike Lane	Marina Vista Interchange to I-680/I-780 split	Construct 4-lane second span plus truck climbing lane and HOV, for a 10-lane bridge (8 mixed-flow plus 2 HOV); move NB toll plaza to south of bridge	Caltrans	*	*	*	\$245,000			
40	SR 242 Widening	I-680 to State Route 4	Widen SR 242 from 4 to 6 lanes plus drainage improvements, soundwalls, restriping.	CCTA	*	*	*	\$35,391			

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
4	I-680 HOV Lanes	North Main Street to Marina Vista	Provide new HOV lane on I-680 northbound from SR 242 to the Marina Vista interchange and southbound from the Marina Vista interchange to North Main Street.	CCTA	*	*	*	\$39,175	*		*
169-aa	Widen State Route 4	Willow Pass Rd. to Bailey Rd.	Widen to 8 lanes (includes 2 HOV)	CCTA, Caltrans							
41	Central County SR 4 Freeway Gap Closure	SR 242 to I-680	Complete third lane in each direction. Auxiliary lane is maintained.	TRANSPAC	*	*	*	\$50,000		*	
1	SR 4/I-680 HOV connection	SR 4 to I-680	Construct HOV connection between SR 4 HOV and I-680 HOV lanes: westbound SR 4 to SB I-680 and NB I-680 to EB SR 4. (Project under study. An alternative under consideration is an HOV connection at SR 242.)	TRANSPAC	*	*	*				
Interchange											
74	Reconstruct I-680/SR 24 Interchange	Rudgear to Boyd	Widen Freeway, modify interchanges from Ygnacio Valley Road to Treat Blvd, including Rudgear and Monument.	Caltrans	*	*	*				
188	Marina Vista Interchange	I-680 at Marina Vista	Partial reconstruction—western half of Marina Vista/I-680 interchange.	Caltrans						*	

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
2b	Reconstruct SR 4/I-680 Interchange	I-680 at SR 4	Reconstruct interchange and provide direct freeway-to-freeway connections for all movements	Caltrans						*	
72	Concord Avenue/State Route 242 Interchange	Concord Avenue at SR 242	New NB on-ramps, remove or replace SB ramps	Concord	*	*					
71	Clayton Road/242 Interchange	At State Route 242	New NB on ramp	Concord	*	*			*		*
2a	Reconstruct I-680/4 Interchange (Interim Project)	Interchange and approaches	Reconstruct interchange to improve safety, operation and capacity	TRANSPAC, Caltrans, CCTA	*	*	*	\$300,000		*	
Operations											
172a	TOS on I-680	SR 24 to Benicia Bridge	Traffic Operations System including changeable message signs, loop detectors, video	Caltrans				\$965	*		
126	Ygnacio Valley Road Signal Interconnect	From Alberta Wy. to Michigan Rd.	Interconnect signals	Concord							
221	Pacheco Blvd. Traffic Signal Interconnect	Arnold Dr. to Second Avenue	Interconnect 5 signals, new signals at Arnold and Second Avenue	Martinez				\$850			
211	Signal interconnect on Alhambra	Between Alhambra Valley Rd. & Arch St.	Signal interconnect on Alhambra	Martinez				\$450			
212	Citywide Traffic Signal Synchronization	In City of Martinez	City wide traffic signal synchronization	Martinez				\$70			
209	Freeway Service Patrol	I-680	Roving tow trucks	MTC					*		
176	Taylor Boulevard Signal Interconnect	Taylor at Contra Costa Blvd.	Signal interconnect with jurisdictions maintaining control over own systems	Pleasant Hill					*		*

Table B.2 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
219	Central Contra Costa TMC	Central County	Replace existing computers with a NTCIP compatible system, replace signal controllers, install fiber optic interconnect	TRANSPAC				\$1,500			
172b	I-680 Smart Corridor	State Rt. 24 to Benicia Bridge	Enhance TOS system to smart system of message signs, metering, AVL and BART parking status	TRANSPAC, Caltrans	*	*	*	\$27		*	
130	Kirker Pass Signal interconnect	Myrtle Drive to Clayton Road	Interconnect Signals	TRANSPAC, TRANSPLAN							
125	Treat Boulevard Signal Interconnect	From Turtle Creek Rd. to Winton Drive	Interconnect signals	Walnut Creek, Concord				\$350			
Park-and-Ride											
304	North Concord BART Parking Shuttle	North Concord BART station	Purchase 2 buses/vans to shuttle persons between parking lots and station	County Connection							
222	Parking Garage	Downtown Martinez	Construct 242-space garage	Martinez				\$10,000			
227	Rudgear road Park-and-Ride lot	At Rudgear road in Walnut Creek	Add approximately 60 spaces	Walnut Creek				\$480			
Rail Rapid Transit											
173a	Martinez Intermodal Project, Phase 1	Downtown Martinez	Redo tracks, parking	Martinez							
173b	Martinez Intermodal Project, Phase 2	Downtown Martinez	New station and amenities	Martinez							
173c	Martinez Intermodal Project	Downtown Martinez	Upgrade to train station, access, parking	Martinez				\$37,000	*		

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterials and Roadways											
197	Widening of Lone Tree Way/Hillcrest Avenue	Lone Tree Way-Hillcrest Avenue in Antioch	Widening to 6 lanes plus turn lanes	Antioch							
81	Widen Walnut Boulevard	Within City of Brentwood	Widen 2 to 4 lanes	Brentwood	*	*		\$1,700	*		*
80	Widening Brentwood Boulevard	From Sunset Road to Sand Creek Road	Widen from 2 to 4 lanes	Brentwood	*	*		\$1,500			
82	Extend Armstrong Road	Between Vasco Road and Byron Highway	Extend 2 lane facility	Contra Costa County		*					
84	Kirker Pass Truck Climbing Lanes	Clearbrook Dr To Buchanan Dr.	Add truck climbing lanes to assist passing of slow trucks	Contra Costa County	*	*	*			*	
14	Byron Highway Shoulder Widening	South of Camino Diablo to County line	Widen shoulders and add turn lanes	Contra Costa County	*		*				
135b	Vasco Road: Safety Improvements	South of County line to Livermore	Improve shoulders, straighten curves	Alameda County					*		
135c	Vasco Road/Camino Diablo Intersection	Vasco Road at Camino Diablo	Widen intersection	Contra Costa County							
199	James Donlon Boulevard Extension	Sommerville to Buchanan	Extend James Donlon Boulevard as a 4-lane road past Somersville Road to connect with the Standard Oil extension (#301)	Contra Costa County							
195	Eastbound Right-turn Lane on Lone Tree Way in Brentwood	Lone Tree at Fairview in City of Brentwood	Add an eastbound right turn lane on Lone Tree Way at Fairview	Contra Costa County							

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
196	Traffic Signal at Lone Tree Way/Empire Avenue	Lone Tree Way and Empire Avenue in City of Antioch	Install a traffic signal, City of Antioch (under construction)	Contra Costa County							
191	SR 4 Widening (Non-Freeway Portion)	From Vintage Parkway in Oakley to 2nd St. in Brentwood	Widen to 4 lanes	Contra Costa County, Brentwood							
192	SR 4 Widening (Non-Freeway Portion)	From Oak St. in Brentwood to Discovery Bay	Widen to 4 lanes	Contra Costa County, Brentwood, Oakley							
33	Willow Pass Road Widening	Loftus Rd. to Range Rd./N. Parkside Dr.	Widen existing 2-lane arterial to 4 lanes, including bicycle lanes and parking	Pittsburg	*		*	\$3,500			
12a	Buchanan Bypass, Phase 1	Kirker Pass Road to Sommersville Rd.	Construct two lane, limited access bypass road, 50 mph design speed, graded for an ultimate 4-lane roadway.	Pittsburg	*			\$26,000			
32	Waterfront Truck Route	E. 3rd St., Harbor St., Santa Fe Ave., Pittsburg-Antioch Hwy.	Construct a truck route in Pittsburg, to connect E. 3rd St. industrial areas with Loveridge Rd. and Highway 4.	Pittsburg				\$3,000			
34a	Range Road Overcrossing (no interchange) at State Route 4	500 feet in both directions from State Route 4, west of Railroad	Construct a 2-lane, Highway 4 overcrossing with no freeway access. Design to include sidewalks and bicycle lanes.	Pittsburg	*			\$5,700		*	

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
37	Railroad Avenue-Leland Road Intersection Improvements	All 4 intersection approaches: 500 feet from the intersection	Increase storage capacity of left- and right-turning lanes, modify existing traffic signal, construct protected right-turn lane on the eastbound approach, and construct an additional left-turn lane on the southbound approach	Pittsburg	*	*	*	\$276			
52	Construction of Street "A" Connection Roadway	State Route 4 (Bay Point interchange) to Bailey Road	Construct 2-lane arterial roadway to accommodate development	Pittsburg				\$11,500			
26	North Park Plaza Connection to Century Boulevard	Pace Boulevard (N. Park Plaza) to Century Blvd.	Construct 2-lane roadway, connecting North Park Plaza and Century Plaza retail centers to close a gap in a northern frontage road for Highway 4	Pittsburg				\$800			
25	Loveridge Road & Pittsburg-Antioch Highway Intersection Improvements	Westbound approach: 500 feet from intersection	Construct protected right-turn lane on the westbound approach	Pittsburg	*		*	\$33			
24	Loveridge Road & Leland Road Intersection Improvements	All 4 intersection approaches: 500 feet from the intersection	Increase storage capacity of left- and right-turning lanes, modify existing traffic signal, construct protected right-turn lane on the northbound approach	Pittsburg	*		*	\$94			
31	Pittsburg-Antioch Highway Improvements	Fourteenth Street to East City Limits	Safety improvements, including larger curve radius, wider shoulders, roadway lighting, and signage and striping	Pittsburg			*	\$500			

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
16	California Avenue Widening	Railroad Ave. to Loveridge Rd.	Widen roadway from 2-lanes to 4-lanes	Pittsburg				\$5,600			
54b	West Leland Rd Widening	From Bailey to A Street	Widen existing roadway from 2 lanes to 4 lanes	Pittsburg	*			\$6,500			
54a	West Leland Road Extension	From A Street to Willow Pass Road	Construct 4-lane arterial roadway connecting Bailey Rd., Street "A" (proposed Bay Point interchange link), and Avila Rd. (Widening of Avila Rd. to Willow Pass Rd. in Concord; subject to discussion)	Pittsburg	*		*	\$10,500			
12b	Buchanan Bypass, Phase 2	Kirker Pass Road to Sommersville Road	Upgrade 2-lane facility to 4 lanes	Pittsburg	*						
198	Install traffic signals at Leland-Dover and Leland-Chestnut	Leland/Dover and Leland/Chestnut in City of Pittsburg	Install traffic signals at Leland/Dover and Leland/Chestnut	Pittsburg							
301	Standard Oil Avenue	From Buchanan Bypass north to W. Leland then under SR 4 with ramps connecting to SR 4	New two lane arterial			*					
New	Pittsburg-Antioch Highway widening	From Somersville Rd. to West of Loveridge	Widen to 4 lanes	Antioch							
Bicycle and Pedestrian											
204	Delta-DeAnza bikeway project	Extend existing trail from Antioch to Oakley and to the Iron Horse trail	Complete the Delta-De Anza bikeway project	East Bay Regional Park District				\$1,150			

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
205	Completion of EBMUD trail	Linking Los Medanos College and Brentwood	Complete EBMUD trail linking Los Medanos College and Brentwood	EBMUD				\$450			
11	Buchanan Road Bicycle Lanes	Railroad Avenue to Harbor Street	Construct Class II bikeway facilities along Buchanan Rd. The project includes pavement widening. Class II bikeway exists on Buchanan Rd. from Harbor St. to Eastern City Limits.	Pittsburg	*		*	\$78	*		
23	Loveridge Road Bicycle Lanes	Entire length from Buchanan Rd. to Pittsburg Waterfront Rd.	Construct Class II bikeway facilities along Loveridge Rd. Existing Class II bikeway from E. Leland Rd. to Hwy 4. Class III bikeway will remain across Hwy 4 overcrossing.	Pittsburg				\$241	*		
203	Pittsburg-Bay Point BART Station Development	At the Pittsburg Bay Point Station	Develop the Pittsburg/Bay Point BART station and surrounding area, including development of housing, retail and office.	Pittsburg, BART							

Bus

201	Express Bus Service	From Antioch, Oakley and Brentwood to Concord employment centers and Lawrence Livermore Labs	Express bus commuter service to Concord. To Livermore assumes using Byron highway and Mountain House Road	Tri-Delta Transit						U	
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Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Expressways											
46a	State Route 4 Bypass - Segment 1 (SR160 to Lone Tree Way) (Phase 1a)	SR160 to Lone Tree Way	Construct phase 1 interchange and 2-lane expressway to Lone Tree Way, with interchanges at Laurel and Lone Tree Way and connectors to SR 160.	State Route 4 Bypass Authority	*			\$31,000	*	*	*
46aa	State Route 4 Bypass - Segment (Phase 1a)	SR160 to Lone Tree Way	Expand Project 46a to 4 lanes	State Route 4 Bypass Authority	*			\$12,000	*	*	*
46b	State Route 4 Bypass - Segment 2 (Phase 1)	Lone Tree Way to Balfour Road	Construct 2-lane roadway to Balfour, and at grade intersection at Balfour, Sand Creek and Marsh Creek. Construct 1 mile of Sand Creek Road east to Fairview.	State Route 4 Bypass Authority	*	*	*	\$17,000	*	*	
46c	State Route 4 Bypass - Segment 3 (Phase 1)	Balfour Rd to Marsh Creek Rd & Marsh Creek Rd to SR4	Add 2 lanes and make entire length 4-lane expressway. Interchanges at Laurel, Lone Tree; at-grade intersections at Sand Creek, Balfour, Marsh Creek	State Route 4 Bypass Authority	*	*	*	\$25,000	*	*	*
Freeways											
169d	State Route 4 East	Loveridge to Hillcrest	Add HOV lane both directions and allow median space for BART	Caltrans	*	*	*			*	
169c	State Route 4 East—Loveridge to SR 160	Loveridge to SR 160	Widen to 6 mixed flow lanes and and a reversible 7th lane	CCTA, Caltrans	*	*	*		*		

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
169a	State Route 4 East, Bailey to Railroad	Bailey to Railroad	Widen to 6 lanes + 2 HOV lanes	CCTA, Caltrans	*	*	*				
169b	State Route 4 East-Railroad to through Loveridge	Railroad to through Loveridge	Widen to 6 mixed flow lanes + 2 HOV with median space for BART.	CCTA, Caltrans	*	*	*		*		*
46d	State Route 4 Bypass: Upgrade to Freeway	SR 160 to Walnut Blvd.	Upgrade to full freeway entire length. Full interchanges at Laurel, Lone Tree, Balfour, Sand Creek, Marsh Creek; signalized intersection at Walnut; extend Sand Creek east to Antioch	State Route 4 Bypass Authority	*			\$4,000		*	
Interchanges											
127	Modify East 18th St. Interchange	State Route 4 at E. 18th St.	Interchange modification	Antioch, Caltrans					*	*	
44c	SR 4-Loveridge Interchange	State Route 4-Loveridge interchange	Reconstruct interchange to provide eight through lanes on SR 4 and a 44 foot median for BART extension	CCTA, Caltrans	*	*	*	\$50,000	*		
44e	Widen Hillcrest Interchange	Hillcrest Interchange	Widen interchange to accommodate 6 lanes. Add a northbound to westbound on-ramp and widen the eastbound exit to 2 lanes.	CCTA, Caltrans	*	*	*		*		
44b	State Route 4/Railroad Avenue Interchange	Interchange of SR 4 and Railroad Avenue	Reconstruct interchange to provide eight through lanes on State Route 4 as well as 44-60-foot median for future BART extension.	CCTA, Caltrans	*	*	*	\$63,433	*		*

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
44d	Modify Somersville Interchange	Somersville Interchange on Route 4	Widen Somersville/Route 4 interchange to accommodate Rt. 4 widening up to 6 lanes.	CCTA, Caltrans	*	*	*		*		
34b	Range Road Interchange at State Route 4	State Route 4 and Range Road	Construct a diamond interchange to ease congestion at the Bailey Rd. and Railroad Ave. freeway interchanges. This project assumes a Range Rd. overcrossing is built first.	Pittsburg	*	*	*	\$4,000	*	*	
New	Contra Loma Interchange	State Route 4 and Contra Loma	Construct interchange at this location	CCTA, CalTrans	*	*	*				
Maintenance											
8	Bailey Road Bridge Replacement	At Diablo Creek crossing	Replace existing deficient bridge	Contra Costa County	*		*	\$325			
9	Bethel Island Bridge Replacement	At Dutch Slough	Replaces existing bridge	Contra Costa County				\$6,250			
19	Delta Road Bridge Replacement	At Rock Slough	Replace existing bridge	Contra Costa County				\$900		*	
Operations											
193	Install Traffic Signal	Downtown Oakley at O'Hara and Norcross	Install traffic signal	Oakley							
55	Traffic Signal Interconnect, W. Leland Road	Bailey Rd. to Crestview Dr.	Install hard-wire SIC in roadway, upgrade controller communication software, develop coordinated signal timing plans	Pittsburg	*		*	\$350			

Table B.3 Comprehensive Transportation Project List: East County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
13	Traffic Signal Interconnect, Buchanan Road	East City Limits to Railroad Avenue	Install hard-wire SIC in roadway and upgrade controller communications software. Includes developing coordinated signal timing plans.	Pittsburg	*		*	\$150			
216	SR 4 East Corridor Traffic Signal Interconnect	Bailey Road to Hwy. 160	Interconnect 50 signals on Leland, Delta Fair, Somersville, Bailey, Buchannan, Railroad and at freeway interchanges	TRANSPLAN				\$637			
Park-and-Ride											
213b	Pittsburg/Bay Point Parking Expansion	At Pittsburg/Bay Point BART	Expand parking facility by an additional 200 parking slots	BART, Pittsburg						*	
213a	Pittsburg/Bay Point Parking Expansion	At Pittsburg/Bay Point BART	Expand parking facility to add 200 parking slots. Includes canopy and lighting improvements	BART, Pittsburg				\$4,200			
128	BART Park and Ride lot	Railroad at State Route 4	Construct Park and Ride lot	BART, Pittsburg							
Rail Rapid Transit											
200a	East County commuter rail	From the vicinity of BART at Bay Point, east to Brentwood	Connect Central County, east with construction of parking and station facilities. Stations at BART, Antioch and Brentwood.	BART						*	
134a	BART extension: Bay Point to Railroad	From Bay Point station to Railroad	Extend BART to Railroad with station and parking	BART	*					*	

Table B.4 Comprehensive Transportation Project List: Lamorinda

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterials/Roadways											
300	Widening of Mt. Diablo Boulevard	In City of Lafayette at Moraga Rd.	Add third EB lane on Mt. Diablo and SB lane on Moraga Rd. realign	Lafayette	*	*		\$1,900	*		*
Bicycle/Pedestrian											
305	BART ADA access	At the Lafayette BART station	Add pedestrian-wheelchair access to south entrance of station	Lafayette				\$668			
236	St. Stephens Bicycle-Pedestrian Trail	In Orinda	Add trail along State Route 24	Orinda				\$1,752			
Bus											
202-ba	Bus Transit Coordinating Council: Youth & School Transportation	Lamorinda	Reduce headways of routes serving school by 5% to better serve school districts; maintain existing system; & add or revise routes to provide better connections	Bus Transit Coordinating Council							
Freeway											
15	Caldecott Tunnel System Continuity Project (Reverse Direction 4th Bore)	Gateway to Tunnel Road	Construct two-lane fourth bore for Caldecott Tunnel	Caltrans	*	*	*	\$200,000		*	
39	State Route 24 Auxiliary Lane	Gateway Boulevard I/C to Camino Pablo I/C	Provide auxiliary lane between Gateway Blvd. & Camino Pablo ICs, primarily through restriping and shoulders; relocate bike path to south of SR 24, ending on Brookwood	CCTA	*	*	*	\$5,100	*		*

Table B.4 Comprehensive Transportation Project List: Lamorinda

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Maintenance											
166	Camino Pablo reconstruction	Miner Rd. to Bear Creek Rd.	Road reconstruction	Orinda							
Operations											
164	Rt. 24 TOS	I-680 to Caldecott	Changeable message signs, video, loop detectors	Caltrans							
206	Signal coordination for San Pablo Dam Road	On Camino Pablo between Miner and Brookwood and on San Pablo Dam Road. On Camino Pablo between Bear Creek and Ardilla.	Coordinate and time signals	County							
Park-and-Ride											
168	Orinda carpool lots and bus centers	In city of Orinda	Orinda carpool lots and bus centers	Orinda					*		*

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterial and Roadway											
259	Schaefer Ranch Road	I-580 to Dublin Blvd.-Hollis Canyon Rd.	Widen to 4-lane divided arterial	Alameda County							
156a	Isabel Avenue Widening and Extension	From Vallecitos Rd. to Vineyard	Extend Isabel South to Vallecitos as 4 lane divided arterial	Alameda County	*				*		
186	Fallon Road widening	Tassajara Road to I-580	Widen from 4 to 6 lanes	Alameda County	*						
155	Greenville Road widening	Patterson Pass to I-580	Widen from 4 to 6 lanes	Alameda County							
17	Camino Tassajara Realignment	From Bruce Dr. to Johnston Rd.	Realign roadway to improve geometrics	Contra Costa County	*			\$976			
57	Camino Tassajara widening	Eastern Danville City limits to County line	Widen from 2 to 4 lanes	Contra Costa County							
153a	Tassajara widening	From Central Parkway to County line	Widen from 2 to 8 lanes	County	*						
153b	Tassajara Road	I-580 to Central Pkwy.	Widen from 6 to 8 lanes	County	*						
184	Intersection Improvements at: Danville Blvd.-Stone Valley Rd. and San Ramon Valley Blvd-Hartz Avenue	Danville Blvd./Stone Valley Rd. and San Ramon Valley Blvd/Hartz Ave.	Interchange improvements	Danville							
290	Diablo Road Widening	Diablo Rd. to Green Valley Rd.	Widen from 2 to 4 lanes	Danville							
182a	Widen Dougherty Road	N. City limit/County line to Dublin Blvd.	Widen to 6 lanes	Dublin					*		

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
182b	Dougherty Road widening	Dublin Blvd. To I-580	Widen from 6 to 8 lanes	Dublin	*				*		
260	San Ramon Road widening	From Vomatic Rd. to Silvergate	Widen to 4 lane divided arterial	Dublin							
258	Gleason Drive widening	Tassajara Rd. to Dublin Blvd.	Widen to 4 lane divided arterial	Dublin							
257	Gleason Drive widening	Hacienda Drive to Tassajara Rd	Widen to 4 lane divided arterial	Dublin							
255	Hacienda Drive Widening	I-580 to Dublin Blvd.	Widen to 6 lane divided arterial (1995 Plan widened south)	Dublin							
256	Hacienda Drive Widening	From Dublin Blvd to Gleason Drive	Widen to 4 divided lanes	Dublin							
92	Dougherty Road Widening	From 4 to 8 lanes from I-580 to Dublin Blvd. and from 2 to 6 lanes north of Dublin Blvd. to Crow Canyon	From 8 lanes from I-580 to Dublin Blvd. and 6 lanes north of Dublin Blvd.	Dublin	*	*			*		
151b	Dublin Boulevard Extension	Tassajara to Doolan Rd.	Construct 6 lane new roadway	Dublin							
151a	Dublin Boulevard Widening	Donlan Way To Tassajara	Widen from 2 lanes to 6 lanes	Dublin	*						
156e	Stanely Boulevard/Isabel Grade Separation	Isabel at Stanley	Construct grade separation at intersection with Isabel Pkwy. as part of SR 84 project	Livermore	*				*		
280	Jack London Parkway	From Kitty Hawk to El Charro	Widen and extend as 4 lane arterial in Livermore	Livermore	*						

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
263	Concannon Boulevard Extension	Arroyo Rd. to Livermore Ave	two lane divided arterial	Livermore							
264	Concannon Boulevard Extension	Murdell Ln. to Isabel Ave.	4 lane divided arterial	Livermore							
271	North Canyons Parkway	Collier Canyon Rd. to Isabel/Cayetano	Widen to 6 lane divided arterial	Livermore	*						
275	North Livermore Avenue	1.5 miles north of I-580 to I-580 (6-lane arterial) and 1.5 miles north of I-580 to Isabel-Cayetano (4-lane arterial)	1.5 miles north of I-580 to I-580 (6 lane arterial). And 1.5 miles north of I-580 to Isabel/Cayetano (4 lane arterial)	Livermore	*						
274	Portola Avenue	I-580 to North Canyons Pkwy.	Widen to 4 lane divided arterial	Livermore							
262	Collier Canyon Road-Airway Boulevard Link	Collier Canyon Rd. to I-580	Widen to 4 lane divided arterial	Livermore							
156b	Isabel Avenue Widening	From Airway Blvd. To Vineyard Ave.	Extend to Airway and widen existing portion to 6 lane arterial	Livermore	*				*		
270	North Canyon Parkway	Doolan Rd. to Collier Canyon Road	Widen to 6 lane divided arterial	Livermore	*						
269	Las Positas Road	N. Livermore Ave. to First St.	Widen to 4 lane divided arterial	Livermore							
156d	I-580 at Isabel Avenue	At I-580 and Isabel Avenue	New interchange: partial cloverleaf	Livermore							
266	Dalton Avenue Extension	Laughlin Ave. to I-580	Two-lane arterial	Livermore							

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
265	Dalton Avenue Extension	Vasco Road to Laughlin Ave.	Two-lane divided arterial	Livermore							
156c	Isabel Avenue Extension	I-580 to Airway	Extend and widen to 8 lanes	Livermore	*					*	
157	Vasco Road Widening	From Isabel extension to Patterson Pass Rd.	Widen to 4 and 6 lanes divided arterial, from Scenic Ave to Dalton widen to 4-lane divided arterial; widen to 6 lanes from Scenic to Patterson Pass Rd.	Livermore							
158	North Livermore	May School Rd. to I-580	Widen to 6 lanes	Livermore							
154	1st Street Widening	Portola Ave. to I-580	Widen to 6 lanes	Livermore							
285a	Stoneridge Drive Widening	From Hopyard to Santa Rita Road	Widen from 4 to 6 lanes	Pleasanton	*						
284	Santa Rita Road	From I-580 to Old Santa Rita Rd.	Widen from 4 to 6 lanes	Pleasanton	*						
283	Hopyard Road Widening	Valley and Division in Pleasanton	Widen from 2 to 4 lanes	Pleasanton	*						
268b	West Las Positas Boulevard	From Foothill Rd. to Payne Ave.	Widen to 4 lanes	Pleasanton	*						
285b	Widen and Extend Stoneridge Drive	From Santa Rita Road to El Charro	Widen existing road to 6 lanes and extend to El Charro to connect with extension of Jack London Blvd.	Pleasanton							
281	Busch Road	Valley Avenue to El Charro Rd.	Widen to 4 lane divided arterial	Pleasanton							

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
286	Sunol Boulevard Widening	From I-680 to First Street	Widen to 6 lane divided arterial	Pleasanton	*						
159	Bernal Avenue Widening	Foothill Rd. to Valley Ave. and First Ave. to Stanley Blvd.	Widen to 4 lanes, Foothill to I-680; widen to 4 lanes, First Ave. to Stanley Blvd.; widen to 6 lanes, I-680 to Valley	Pleasanton	*						
160	Hacienda Drive Extension	Extend as 4-lane arterial Dublin Blvd., to Gleason; widen to 6 lanes, I-580 to Dublin	Extend as 4-lane arterial Dublin Blvd., to Gleason; widen to 6 lanes, I-580 to Dublin	Pleasanton	*						
89a	San Ramon Valley Boulevard	Sycamore Valley Rd. to Crow Canyon	Widen 2 to 4 lanes	San Ramon							
181	Crow Canyon Road Improvements	Crow Canyon Place to Tassajara Ranch Dr.	widening and safety improvements. Widen from 4 to 6 lanes from Alcosta to Tassarara Ranch Drive	San Ramon							
89b	San Ramon Valley Boulevard Widening	From Montevideo to Alcosta	Widen San Ramon Valley Blvd. 2 to 4 lanes	San Ramon	*	*					
90a	Bollinger Canyon Road Widening	From I-680 to Camino Ramon	Widen from 6 to 8 lanes	San Ramon	*	*			*		
91	Bollinger Canyon Extension	San Ramon City limits to Dougherty Road	Extend Bollinger Canyon east to Dougherty Road	San Ramon	*	*			*		
272	Bollinger Canyon Road Intersection Improvements	At Sunset, Camino Ramon, Alcosta	Upgrade intersections to meet LOS objectives	San Ramon							
273	Crow Canyon Intersection	I-680 at Crow Canyon Road	Improve geometrics of intersection at southbound off-ramp	San Ramon							

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
90b	Bollinger Canyon Road Widening	From Alcosta Blvd. to eastern San Ramon City limits	Widen from 4 lanes to 6 lane divided arterial	San Ramon	*				*		
292	Old Ranch Road	From Dougherty Rd. to Alcosta Blvd.	Widen from 2 to 4 lanes	San Ramon							
291	Deerwood Place Widening	Fastoria Way Overcrossing to Crow Canyon Rd.	Widen from 2 to 4 lane arterial	San Ramon							
Bicycle/Pedestrian											
238	Iron Horse Gap Closure	Overcrossing at Bollinger Canyon Rd.	Overcrossing at Bollinger Canyon Rd.	Ramon				\$2,500			
231	Iron Horse Trail Overcrossing	At Sycamore Valley Road	Build overcrossing	Danville				\$2,500			
Bus											
133	Expansion of WHEELS	In Tri-Valley Area	Expand WHEELS service to reduce headways on trunklines and feeder services.	LAVTA						*	
276	Express Bus Service	Nine new express bus routes operating in the I-680, I-580 and Vasco Road corridors	Santa Clara Co. to Pleasanton, Hayward to San Ramon, SCCO. to San Ramon, Fremont to San Ramon, Brentwood to Pleasanton, Brentwood to Livermore, Fremont to Livermore, Hayward to Pleasanton, Hayward to Livermore	LAVTA						*	

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Expressway											
150	Vallecitos Road/SR 84	I-680 to Node 4164 on Vallecitos Road	Widen to 4 lanes	Pleasanton, Caltrans						*	
Freeway											
261	HOV Lanes on I-680	Between Alcosta and south to SR 237	Add NB and SB HOV lanes	ACTA, Caltrans						*	
252	HOV Lanes on I-580	Tassajara Road to E. of Vasco Rd.	Add HOV lanes East/West	ACTA, Caltrans						*	
293a	HOV over Sunol Grade	Northbound HOV lane from Fremont to Rt. 84	Northbound HOV lane. Two person carpool lane	ACTA, Caltrans	*				*	*	
293b	HOV over Sunol Grade	Southbound over Sunol Grade, from Rt. 84 to Fremont	Southbound only 2 person carpool lane	ACTA, Caltrans	*				*		*
75	HOV Lanes on I-680	Rudgear Road to I-580	Add HOV lanes NB and SB from Rudgear Road to I-580	Caltrans	*	*	*				
3	I-680 Auxiliary Lanes, Diablo Road to Bollinger Canyon Road	Diablo Road to Bollinger Canyon Road	Construct an additional 12-foot lane between ICs in northbound and southbound directions, retaining walls, and new soundwalls. Includes structure widening over Laurel Drive.	CCTA, Caltrans	*	*	*	\$2,000	*	*	*
253	I-580 HOV Lanes	From E. of Vasco Road to County line	HOV lanes to be built beyond 2010	Dublin							
149	Isabel Parkway/SR 84	I-580 to Vallecitos Road	Widen to divided freeway	Pleasanton, Caltrans						*	

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Interchanges											
79	New ramps at El Pintado Interchange	El Pintado at I-680	New NB off and SB on-ramps at El Pintado	Danville	*	*	*	\$2,000		*	
277	I-580/Foothill interchange	At Foothill interchange	Conversion to partial cloverleaf	ACTA			*				
138	I-680/I-580 interchange	I-580 at I-680	Upgrade IC; add south-bound to eastbound flyover and Dublin Hook Ramps	ACTA, Caltrans			*				
147	Hacienda Drive interchange	Hacienda Drive at I-580	Modify interchange	Caltrans			*				
146	North Greenville Road interchange	North Greenville Road at I-580	Modify interchange	Caltrans			*				
145	1st Street interchange	I-580 at 1st Street	Modify interchange to "parclo" design	Caltrans	*		*				
144	North Livermore Ave interchange	North Livermore at I-580	Modify interchange	Caltrans			*				
139	I-580/Vasco Road interchange	I-580 at Vasco Road	Modify interchange	Caltrans							
143	El Charro Road Interchange	El Charro Road at I-580	Modify interchange	Caltrans							
137	Hopyard Road Interchange	I-580 at Hopyard	Modify interchange	Caltrans							
268	Interchange at West Las Positas	On I-680 at West Las Positas	New interchange on I-680 in Pleasanton	Pleasanton, Caltrans			*				
78	Interchange at Alcosta	I-680 at Alcosta Avenue	Add SB on-off hook ramp north of Alcosta tying into San Ramon Blvd. Eliminate SB diamond IC movements	San Ramon	*	*	*	\$7,715	*	*	

Table B.5 Comprehensive Transportation Project List: Tri-Valley

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Park-and-Ride											
185	Sycamore Valley Park-and-Ride lot	I-680 at Danville	Park and ride lot	Danville							
Rail/Rapid Transit											
161	West BART Dublin BART station	West Dublin	Construct new Dublin station	ACTA, BART						*	
152	BART extension to Livermore	East Dublin to Greenville in Livermore	One station extension to Greenville in Livermore	BART	*		*			*	

Table B.6 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Arterial and Roadway											
289	Street and Road Improvements	Countywide	Smaller, non-significant capital improvements to arterials to improve traffic flow: channelization, striping, minor intersection design.	Local Jurisdictions					*		*
Bicycle/Pedestrian											
239	Iron Horse Trail	Benicia to the Alameda County line includes Martinez Shoreline Trail along Waterfront Drive from Pacheco Creek to I-680.	Construct Class I trail facility from Benicia to Alameda County line includes Martinez Shoreline Trail along Waterfront Drive from Pacheco Creek to I-680	East Bay Regional Park District				\$10,000			
Bus											
202c	Bus Transit Coordinating Council: Expand Evening Services	Countywide	In Central and East County, extend service hours to midnight of major trunkline routes	Bus Transit Coordinating Council						*	
202d	Bus Transit Coordinating Council: Enhanced Cross-County Links	Between El Cerrito Del Norte BART station and Orinda BART. Between Richmond-El Cerrito, and Walnut Creek-Martinez: entire length of Ygnacio Valley Road corridor	Add new crosscounty bus services, and double service of existing services.	Bus Transit Coordinating Council						*	

Table B.6 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
202e	Bus Transit Coordinating Council: Express Bus Service	From Concord, Martinez, Walnut Creek to Hacienda and Bishop Business Park, and service to San Ramon, Danville, and Dougherty Valley	Double existing services and add new services from Concord & Martinez	Bus Transit Coordinating Council						*	
202a	Bus Transit Coordinating Council: Expand BART Bus Feeder Service	Reduce existing bus headways to BART stations in Contra Costa Co.	Reduce existing headways. Add shuttle services to major employers	Bus Transit Coordinating Council						*	
202f	Bus Transit Coordinating Council: ADA Paratransit	Countywide	Expand existing services throughout the County	Bus Transit Coordinating Council					*		
202-bb	Bus Transit Coordinating Council: Youth & School Transportation	Areas outside of Lamorinda	Reduce headways of routes serving school by 5% to better serve school districts. Maintain existing system; add or revise routes to provide better connections	Bus Transit Coordinating Council							
Maintenance											
241a	BART Capital Shortfall and Seismic Retrofit	Countywide	Represents BART's capital shortfall and seismic retrofit in Contra Costa County as shown in 1998 RTP Track 1	BART				\$159,000	*	*	
241b	BART Capital Shortfall and Seismic Retrofit	Countywide	Portion of BART capital shortfall unfunded in 1998 RTP Track 1	BART				\$53,100		*	

Table B.6 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
165a	Non-Pavement Maintenance	Countywide	Maintenance for street drainage, lighting curbs, gutters. Portion identified in 1998 RTP Track 1	Local Jurisdictions				\$12,000	*		*
242b	Streets and Roads Maintenance: Non-MTS	Countywide	Rehabilitation of non-MTS streets and roads. Includes shortfall not covered in RTP	Local Jurisdictions				\$410,200		*	
303a	Seismic Retrofit of Local Bridges and Overpasses	Countywide	Reflects Federal funds subvented to the County for strengthening local bridges and overpasses against earthquake damage. Portion identified in 1998 RTP Track 1	Local Jurisdictions				\$2,700	*		
165b	Non-Pavement Maintenance	Countywide	Maintenance for street drainage, lighting, curbs, gutters. Portion identified in 1998 RTP as unfunded	Local Jurisdictions				\$228,300		*	
242a	Streets and Roads Maintenance (MTS)	Countywide	Rehabilitation of MTS streets and roads and portion of non-MTS included in Track 1	Local Jurisdictions				\$69,800	*		
303b	Seismic Retrofit of Local Bridges and Overpasses	Countywide	Reflects Federal funds subvented to the County for strengthening local bridges and overpasses against earthquake damage. Portion identified in 1998 RTP as unfunded.	Local Jurisdictions				\$169,700		*	

Table B.6 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Operations											
36a	Countwide TDM Program (Committed Programs)	Countywide	1) Carpool/Vanpool incentive program 2) County cost of participation with regionwide rideshare program (RIDES) 3) Telecommute programs 4) Traveler trip planning programs 5) Transit incentives and fare coordination programs 6) school programs	Contra Costa Commute Alternatives Network							
36b	Countwide TDM Program (Future Programs)	Countywide	1) Carpool/Vanpool incentive program 2) County cost of participation with regionwide rideshare program (RIDES) 3) Telecommute programs 4) Traveler trip planning programs 5) Transit incentives and fare coordination programs	Contra Costa Commute Alternatives Network				\$26,600		*	
53	TR@KS (2 years)	Contra Costa	Maintain website and install additional kiosks	Contra Costa Commute Alternatives Network				\$270			
Park-and-Ride											
282a	BART Countywide Access Improvements	Countywide	Improve access to BART stations including parking expansion & shuttles	BART						*	

Table B.6 Comprehensive Transportation Project List: Central County

ID	Project Name	Project Limits	Description	Primary Sponsor	Regional Route	CMP Network	MTS	Total Cost (\$1,000s)	RTP Track 1	MTC Blueprint	RTIP or STIP
Rail/Rapid Transit											
45b	BART Equipment: Faregate Expansion	BART in Contra Costa Co.	Upgrade and expand faregates and ticket equipment	BART						*	
282b	BART Operational Improvements	Countywide	Includes crossovers, maintenance shops, tail tracks in order to improve operational efficiency	BART						*	
45a	BART Equipment: Advanced Automatic Train Control	BART in Contra Costa Co.	Update computer and train control equipment	BART					*		*
Studies											
131	I-680 Corridor Study	From Benicia Bridge to I-580	Prepare a comprehensive evaluation of alternative strategies to managing traffic congestion and recommend traffic management strategies	TRANSPAC, SWAT, TVTC						*	

Resolution 00-07-G

The Contra Costa Transportation Authority adopted the following resolution on July 19, 2000. It formalizes the Authority's approval of the environmental clearance for, and the adoption of, the 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan. Consistent with the approach the Authority used to develop the 2000 Update, the resolution also adopts the Action Plans for Routes of Regional Significance.



Contra Costa Transportation Authority

Resolution 00-07-G

RE: Adoption of the Final 2000 Update to the Contra Costa Countywide Comprehensive Transportation Plan

(1) **Whereas**, the Authority was given the responsibility by the voters of Contra Costa, when they approved Measure C in November 1988, to carry out Ordinance 88-01 and the associated Expenditure Plan, including the implementation of the Regional Transportation Planning and Growth Management program; and

(2) **Whereas**, the Measure C Growth Management Program as described in the Expenditure Plan requires the Authority to develop and adopt a countywide Comprehensive Transportation Plan (the Plan) and update it every two years,¹ and to provide a forum for jurisdictions to cooperate in easing cumulative traffic impacts;² and

(3) **Whereas**, the Authority's Growth Management Implementation Documents established the Action Plans for Routes of Regional Significance as such a forum and outlined a process for designating Routes of Regional Significance and preparing and implementing the Action Plans;³ and

(4) **Whereas**, the Authority's Growth Management Implementation Documents specify that the goals, objectives and actions delineated in

the Actions Plans will form the basis of the countywide Comprehensive Transportation Plan;⁴ and

(5) **Whereas**, the Regional Transportation Planning Committees (RTPCs) adopted Action Plans in 1995 that fulfilled the purpose and requirements for such Action Plans as outlined in the Growth Management Implementation Documents; and

(6) **Whereas**, in accordance with the Joint Powers Agreement that established the Tri-Valley Transportation Council, final adoption of the update to the Tri-Valley Transportation Plan/Action Plan will require the unanimous vote of all members of the Council; and

(7) **Whereas**, the City of San Ramon, a member of the Council, has expressed its opposition to the proposed change in the description of the configuration of Camino Tassajara between the Town of Danville and Windermere Parkway; and

(8) **Whereas**, the Authority passed Resolution 95-03-G adopting the first Contra Costa Countywide Comprehensive Transportation Plan on July 19, 1995, which was based on the Action Plans adopted by the RTPCs in 1995, outlining the Authority's goals, traffic service and other objectives for maintaining and improving the transportation system; directing the implementation of the Plan; and listing future actions to address in updates to the Plan; and

(9) **Whereas**, the Authority reaffirmed the policies of the 1995 Plan in 1997 when it adopted Resolution 97-03-G on October 15, 1997; and

(10) **Whereas**, the Authority took action, through adoption of Resolution 95-01-G in February 1995, to designate as "Routes of Regional Significance" the following routes:

- Camino Pablo, beginning at Moraga Way and Camino Encinas in the City of Orinda and proceeding northwest to San Pablo Dam Road; and
- Pleasant Hill Road, beginning at State Route 24 in the City of Lafayette, proceeding north to Taylor Boulevard and continuing north along Taylor Boulevard into the City of Pleasant Hill; and

(11) **Whereas**, the involved RTPCs (WCCTAC and SWAT) have worked diligently to prepare final action plans and in so doing have fully considered the views of interested parties and jurisdictions, including those relative to the San Pablo Dam Road/Camino Pablo Action Plan, which was jointly prepared by WCCTAC and the City of Orinda, and including those relative to the Pleasant Hill Road Action Plan, which was prepared by the City of Lafayette in consultation with TRANSPAC and reviewed and approved by the Lafayette City Council, the Lamorinda Project Management Committee, and SWAT; and

(12) **Whereas**, the RTPCs have reviewed their adopted Action Plans and prepared draft Action Plan Updates that responded to changed conditions, and released those drafts in December 1999 for review and comment; and

(13) **Whereas**, the Authority prepared a *Draft 2000 Update to the Countywide Comprehensive Transportation Plan*, which incorporated the proposed revisions to the Action Plans and the San Pablo Dam Road/Camino Pablo and Pleasant Hill Road Action Plans, and released it for public review on May 1, 2000; and

(14) **Whereas**, the Authority has reviewed comments received on the Draft 2000 Update to the Countywide Comprehensive Transportation Plan and believes those comments to have been duly addressed

and, where appropriate, incorporated into the Final 2000 Update; and

(15) **Whereas**, the RTPCs have reviewed comments on their draft Action Plan updates and made corrections and changes that respond to those comment, as appropriate, and have prepared Proposal for Adoption Action Plans and forwarded them to the Authority, as described in Exhibit A to this Resolution, for incorporation into the Final 2000 Update; and

(16) **Whereas**, through the adoption of Resolution 00-06-G, the Authority has addressed all of the necessary requirements of the California Environmental Quality Act, and subsequent amendments thereto, through the circulation of a Draft Environmental Impact Report for the Draft 2000 Update to the Countywide Comprehensive Transportation Plan, and certification of the Final Environmental Impact Report and related documents;

(1) **Now, Therefore Be It Resolved**, that the Authority hereby adopts *Findings, Facts in Support of Findings and Statement of Overriding Considerations* included herein and made a part hereof by reference; and

(2) **Be It Further Resolved**, that the Authority adopts the Mitigation Monitoring and Reporting Program for the 2000 Update to the Countywide Comprehensive Transportation Plan included herein and made a part hereof by reference; and

(3) **Be It Further Resolved**, that the Authority adopts all of the mitigation measures set forth in the Mitigation Monitoring and Reporting Program; and

(4) **Be It Further Resolved**, that the Authority hereby adopts the Final 2000 Update to the Countywide Comprehensive Transportation Plan which is attached hereto and made a part hereof by reference; and

(5) **Be It Further Resolved**, that the network of Routes of Regional Significance designated by the Authority and RTPCs is hereby revised, as follows:

- The Richmond Parkway from 1-80 to 1-580 is hereby designated a Route of Regional Significance; and
- Rumrill Boulevard from San Pablo Avenue to 13th Street in Richmond, 13th Street from Rumrill Boulevard to Pennsylvania Avenue, and Pennsylvania Avenue from 13th Street to Garrard Boulevard are hereby removed from the list of Routes of Regional Significance; and
- Central Avenue from San Pablo Avenue to 1-580 is hereby designated a Route of Regional Significance; and

(6) **Be It Further Resolved**, that the Authority hereby incorporates the updated Action Plans into the Countywide Comprehensive Transportation Plan by incorporating into the Plan the Traffic Service Objectives and Actions set forth in the Proposal for Adoption Action Plan document which are listed in Exhibit A and which are made a part hereof; and

(7) **Be It Further Resolved**, that the Authority will incorporate the Proposal for Adoption Tri-Valley Transportation Plan/Action Plan into the Final 2000 Update to the Countywide Comprehensive Transportation Plan, except that the Authority will not incorporate the pro-

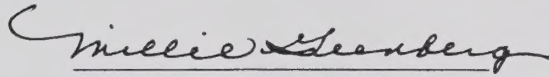
posed change in the configuration of Camino Tassajara between the Town of Danville and Windermere Parkway from a four-lane divided arterial to a two-lane divided arterial in 2010, as described in Table 7-1, Detailed List of Planned Roadway Improvements. That description will remain “four-lane divided arterial,” unless a change in configuration is unanimously agreed upon by TVTC, but will be footnoted as follows:

“The timing and ultimate configuration of improvements to Camino Tassajara are dependent upon several factors, including future travel patterns, changes in traffic demands and/or safety considerations, and the availability of sufficient funding to accomplish desired improvements. At this time, no specific funding has been identified, programmed or committed to accomplish the identified improvements.

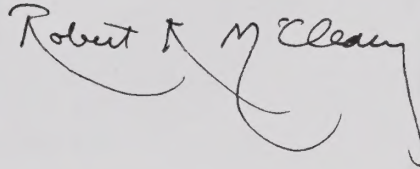
“The widening of Camino Tassajara from two lanes to four lanes between the Danville Town Limits and the proposed Windermere Parkway is *not* included in the adopted General Plan Circulation Elements of Contra Costa County, Danville, or San Ramon. The Contra Costa County General Plan, which constitutes the governing policy document for this segment of Camino Tassajara, indicates two lanes in 2010 with right-of-way preservation for four lanes;” and

(8) **Be It Further Resolved**, that the local jurisdictions of Contra Costa shall, as a condition of compliance with the Growth Management Program, implement the policies, actions, programs, and measures as set forth in Action Plans for Routes of Regional Significance, which are attached hereto and made a part hereof by reference.

This RESOLUTION was entered into at a meeting of the Contra Costa Transportation Authority held July 19, 2000 in Walnut Creek, California


Hon. Millie Greenberg, Chair

Attest:



NOTES

- 1 The 1988 Measure C legislation, Contra Costa Transportation Improvement and Growth Management Program, p. 8
- 2 *ibid*, p. 11
- 3 *Growth Management Implementation Documents*, Sections 2 and 3, adopted by the Contra Costa Transportation Authority December 1990
- 4 *ibid*, p IG-18

Exhibit A Schedule of Approval of Proposal for Adoption Action Plans for Routes of Regional Significance

- Southwest Area Transportation Committee (SWAT) — June 5, 2000†
- Lamorinda Program Management Committee (LPMC) — June 5, 2000
- Tri-Valley Transportation Council (TVTC) — June 28, 2000
- West Contra Costa Transportation Advisory Committee (WCCTAC) — June 30, 2000
- Transportation Partnership and Cooperation (TRANSPAC) — July 13, 2000
- TRANSPLAN Committee — June 29, 2000
- San Pablo Dam Road/Camino Pablo Action Plan (WCCTAC & SWAT) — December 23, 1998
- Pleasant Hill Road (SWAT) — November 5, 1998

† On June 5, 2000, SWAT, which is the Regional Transportation Planning Committee responsible for both the Lamorinda and Tri-Valley areas of Contra Costa County, delegated authority for the approval of the Lamorinda and Tri-Valley Action Plans to the LPMC and TVTC, respectively

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Glossary

Although a planning and policy document, the 2000 Update to the countywide Comprehensive Transportation Plan uses many technical terms. Some of these terms are in general use among transportation planners and engineers, while others refer to the specific requirements and components of the Authority's Growth Management Program. This appendix lists some of these key technical and growth management terms, and provides a short definition or explanation for each.

ABAG, Association of Bay Area Governments The regional land use planning agency for the nine-county Bay Area; among its other responsibilities, ABAG develops forecasts of population and employment growth in its *Projections* series.

Action Plan A document prepared by a Regional Transportation Planning Committee that includes: (1) a specific program for each designated Route of Regional Significance, consisting of traffic service objectives and actions and responsibilities for implementation them; (2) regional actions for reducing congestion such as land use policy changes and demand management strategies; and (3) a process for monitoring and review of activities that might affect the performance of the regional transportation system.

Authority The Contra Costa Transportation Authority.

BAAQMD, the Bay Area Air Quality Management District The agency charged with implementation of the Clean Air Act including the establishment of implementation of transportation control measures (TCMs) that each CMA must help implement.

BART, Bay Area Rapid Transit District The agency that operates the rapid rail transit system within Alameda, Contra Costa and San Francisco counties with new service to San Mateo County.

Bay Area Partnership A coalition of top staff of various transportation agencies in the region, “the Partnership” works by consensus to develop financing strategies and improve the efficiency of the transportation system.

Caltrans The California Department of Transportation.

Capitol Corridor Amtrak intercity rail service — seven daily round-trip trains supported by connecting feeder bus services — between Auburn and San Jose with stops Martinez and Richmond

CCTA Contra Costa Transportation Authority.

CEQA, the California Environmental Quality Act The State legislation that requires the review of the environmental impacts and the development of mitigation measures for proposed projects; the definition of “project” includes both construction activities such as the widening of a road and plans such as the preparation of a countywide transportation plan.

CMA, Congestion Management Agency The agency designated for a given area, usually a county, to develop and manage the Congestion Management Program. In Contra Costa County, the Contra Costa Transportation Authority is the designated CMA. Congestion management agencies came into existence as a re-

sult of State legislation and voter approval of Proposition III in 1990.

CMP, Congestion Management Program A document prepared by a CMA consistent with Section 65088 *et seq.* of the California Government Code.

CTC The California Transportation Commission.

GMP, the voter-approved Measure C Growth Management Program The Authority’s program of activities for supporting growth management and cooperative planning within Contra Costa.

Goal A statement describing in general terms a condition or quality desired by the jurisdiction or other decision-making body. Goals may be used as the policy based for standards and objectives.

HOV, a high-occupancy vehicle Generally used to describe carpools or vanpools but also, depending on the context, used to describe bus transit vehicles; HOV lanes are travel lanes set aside for the use of carpools, vanpools and buses.

JPA, Joint Powers Agreement An agreement among local governments or agencies to exercise their authority for a specific purpose such as imposing fees to fund regional transportation improvements or to conduct transportation planning

LOS, level-of-service Level-of-service standards describe the range of possible traffic conditions as represented by the letters A through F, with A being excellent and F poor.

MTC, the Metropolitan Transportation Commission The regional transportation planning agency established by the State of California for the nine-county Bay Area region; MTC also serves as the Metropolitan Planning Organization or MPO under federal legislation.

MTS, Metropolitan Transportation System The multimodal system of regional significance, as designated by MTC, comprised of those facilities and services that are crucial to the freight and passenger mobility needs of the Bay Area

MPO, Metropolitan Planning Organization An agency established through or empowered to carry out the regional transportation planning functions established in federal legislation. In the Bay Area, MTC is the designated MPO.

Performance Standard A statement representing a commitment by a public agency to attain a specified level or quality of performance through its programs and policies.

Programmed Included in the list of projects to be funded through a particular funding source

Regional Route A Route of Regional Significance

is a roadway designated by the Contra Costa Transportation Authority, consistent with procedures described in the *Implementation Guide: Traffic Level-of-Service Standards and Programs for Routes of Regional Significance*. These roadways are subject to the objectives and programs in the adopted Action Plans.

RTIP, Regional Transportation Improvement Program A programming document prepared and adopted by MTC biennially for federal and State funds. The RTIP is developed from project lists submitted by CMAAs such as the Authority; following review by the CTC, its recommendations are incorporated into the STIP.

RTP, Regional Transportation Plan MTC's long-range (20-year) planning document that outlines goals, policies and a financially-constrained program of transportation projects for the Bay Area; the RTP identifies

RTPC, Regional Transportation Planning Committee The four committees identified in Measure C as the key forum for participating in the cooperative, multi-jurisdictional planning process. The RTPCs are charged with, among other things, preparing and updating the Action Plans for Routes of Regional Significance. There are four RTPCs: WCCTAC in West Contra Costa, TRANSPAC in Central Contra Costa, TRANSPAN in East Contra Costa, and SWAT in Southwest Contra Costa. A fifth committee,

called TVTC, represents the southern of SWAT, and includes the Alameda County jurisdictions of the Tri-Valley.

SOV, Single-Occupant Vehicle A vehicle with one occupant — the driver — who is sometimes referred to as a “drive alone”.

STIP, State Transportation Improvement Program The biennial program of projects in California to be funded with State and federal funds. The STIP is prepared and adopted by the CTC based on recommendations from the regional MPOs in California such as MTC and Caltrans.

TCC, Technical Coordinating Committee A committee made up of transportation planning and engineering staff from local jurisdictions, transit agencies, MTC and Caltrans; the TCC advises the Authority on technical matters.

TCM, Transportation Control Measure An action or set of actions designed to achieve or maintain the air quality standards established in federal and State clean air legislation.

TDM, Transportation Demand Management Programs to increase the efficiency of the transportation system, reduce demand for road capacity during the peak hour and otherwise affect travel behavior to minimize the need for capacity-increasing projects.

TFCA, Transportation Fund for Clean Air Funds generated from vehicle registrations that are used for projects and programs that help improve air quality; within Contra Costa, the Authority is the program manager for these funds.

TIP, Transportation Improvement Program The primary spending plan for federal funding expected to flow into the region for all types of transportation facilities.

TOS, Traffic Operations System A set of electronic devices, such as detectors, video cameras, and changeable message signs, that will help Caltrans operate the highway system more effectively.

Travel Demand Model A computerized model that uses information on current and future land use, transportation facilities, and demographics to forecast future demand on the transportation system.

The Tri-Valley The planning subarea that includes the Livermore, Amador and San Ramon valleys, encompassing the local jurisdictions of Danville and San Ramon in Contra Costa County and Dublin, Pleasanton and Livermore in Alameda County, as well as the unincorporated areas of both counties.

TSO, Traffic Service Objective A flexible, but quantifiable, measure of transportation facility per-

formance, such as vehicle occupancy or delay. The Action Plans for Routes of Regional Significance must establish at least one TSO for each Regional Route.

VHT, Vehicle Hours Traveled The estimated running time for all vehicles that are out on the roadways during a given time period, usually a peak hour (AM or PM) or peak period.

VMT, Vehicle Miles Traveled The number of miles traveled by all vehicles out on the roadway during a given time period, usually a peak hour (AM or PM) or peak period.

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